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**FINAL ENVIRONMENTAL IMPACT STATEMENT  
REVISED APPENDIX L, ECONOMICS AND LAND USE  
SUPPLEMENT**

1. Chung Report, 2. Phillips/Norwalk Report  
3. Putman Report, 4. Savatsky Report

Volume 6

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# **NORTH HAVEN MALL**

**NORTH HAVEN, CONNECTICUT**



JUNE 1983



**US Army Corps  
of Engineers**  
New England Division

## Chung Report

# **A Large Scale Regional Shopping Mall**

**VS.**

## **The Regional Downtown**

**An Economic Impact Study of the Proposed North Haven Mall**

**Prepared for**

**Office of Downtown & Harbor Development  
City of New Haven, CT.**

**By**

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## INTRODUCTION

This report presents the potential impacts of the North Haven Mall on the regional economy in terms of gains and losses of retail sales, tax base, and employment by eighteen towns which constitute the Greater New Haven community, and more significantly in terms of impacts on the individual wellbeing in society.

Since this report does not provide a summary in the beginning, the readers may benefit, first by reading Chapter 5 which presents the summary of economic impacts of the proposed North Haven Mall under various scenarios.

## CHAPTER 1

### MARKET POTENTIAL

#### 1.1 Introduction

This report is intended to present a comprehensive measurement of the economic impact of the proposed North Haven Mall. This chapter will establish the framework for measurements undertaken in the subsequent chapters.

#### 1.2 Objective of the Study

It has been proposed by a developer in New York to construct a large-scale shopping mall by 1985 in North Haven on 127 acres of land<sup>\*</sup>. Once built, it will be the largest shopping mall in the area with more than 1.12 million square feet of retail space. It is in fact slightly larger than the retail space (1.1 million square feet in 1982) of the entire downtown New Haven, and certainly larger than any of the other shopping centers and malls around.

In order to proceed with the project, the developer has to receive a number of permits and approvals. Among these, it is critical to obtain an approval from the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act of 1977 to fill 25 acres of wetlands on the site<sup>\*\*</sup>. Under their regulations, the Corps must find that the proposed project promotes rather than injures public welfare and environmental quality. Based on an Environmental Impact Statement (EIS) prepared by various concerned groups, the Army Corps of Engineers will render a decision.

\* Mall Properties, Inc., New York, New York.

\*\* Under Section 404 of the Clean Water Act of 1977, and Section 10 of the River and Harbor Act of 1899.

The EIS prepared by the consultants of the developer (Gladstone Report)\* presented conclusions that the proposed mall will (a) serve the public need; (b) yield considerable tax benefits to the Town of North Haven; (c) create a large number of new jobs and income for the area residents; and (d) create a minimum of adverse economic impacts for the area towns and businesses, including downtown New Haven.

This report challenges the above conclusions. To the contrary, this report finds that the North Haven Mall, once built will have economic and social effects on the downtown of New Haven, the City of New Haven, and ultimately a deleterious impact on the entire region. The North Haven Mall will not serve presently unmet public need and it will not create a large number of new jobs and thus greater income for the area residents.

Who is telling the truth? Whose statistics provide a more accurate view of the situation? The purpose of this study is to therefore present another interpretation of the facts and different projections for the future. "Objective" measurement of economic impact of the proposed North Haven Mall on the wellbeing of towns and their residents in the greater New Haven community is desired by those who petition the Army Corps of Engineers for that second look which might prove convincing--that the North Haven Mall is unnecessary to the New Haven region at this time.

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\* Gladstone Associates, ECONOMICS AND LAND USE, Prepared for mall Properties, Inc., New York, New York, August, 1981



### 1.3 Nature of the Issue

The anticipated business success of the planned North Haven Mall and the coveted tax benefits to the Town of North Haven where the Mall will be located will be mostly at the costs of others. Once developed, it will take away sizable sales from the existing businesses and foil many potentials for the future growth of the rest of the metropolitan area. The Mall will hit downtown New Haven hardest and will significantly reduce the tax base and employment opportunities of many, especially the low and moderate income workers.

The question to be addressed for a larger community (not just for North Haven, not just for New Haven, but inclusive of all these communities) is: is this trade-off necessary and desirable?

### 1.4 Greater New Haven Community and the Public Wellbeing

Collective decision in a democratic society presupposes that the society is composed of individuals, and it is the individual wellbeing which ultimately matters.

If we are going to evaluate the wellbeing, or welfare of the society as a whole (inclusive of all individuals), we have to define the society first. For this study, we define all towns and their residents which will be more than insignificantly or casually impacted by the proposed Mall as the society or community. Since this is a study measuring the economic impact arising from a shopping mall, we will call it a "trade area" and use it synonymously for society or community. (See Figure 1)

Note that the "Trade Area" in this study includes towns which are not in-

cluded in the New Haven-West Haven SMSA. It must be emphasized that we would not make any differentiation between the welfare of the residents of SMSA towns or of non-SMSA towns. Welfare of residents of both metro and non-metro New Haven are treated equally.

In this regard, it is apropos to quote a statement by the Greater New Haven Chamber of Commerce publication\* promoting the economic growth and development of the area:

What is Greater New Haven? Is it a county, a retail trade area, a standard metropolitan statistical area, a labor market area, a planning region, a congressional district, a combination of some or all of these -- or something altogether different? Actually, it is all of these and many more. The boundaries of Greater New Haven depend to a large extent on the subject, purpose, and use to be made of the data collected. There is no one boundary which can be drawn to fit all of the economic and social characteristics of the area commonly referred to as Greater New Haven.

(See Figure 2 which shows the relationship of the towns in the trade area with the boundaries of other geographical definitions of Greater New Haven Area community.)

For this economic impact study, the trade area includes the following 18 towns: of these, 14 are in SMSA; and the remaining four are not. They are:

SMSA Towns: 1. North Haven, 2. New Haven, 3. Wallingford,  
4. Hamden, 5. North Branford, 6. East Haven,  
7. Bethany, 8. Woodbridge, 9. Orange,  
10. West Haven, 11. Branford, 12. Guilford,  
13. Madison, 14. Clinton.

Non-SMSA Towns: 15. Durham, 16. Middlefield, 17. Meriden,  
18. Cheshire.

Thus, the shifting of sales from non-metro towns to metro towns has no intrinsic value per se.\* (See footnote on next page.)

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\*The Greater New Haven Chamber of Commerce, South Central Connecticut Economic Profile and Industrial Directory, 1973-1974, p.2.

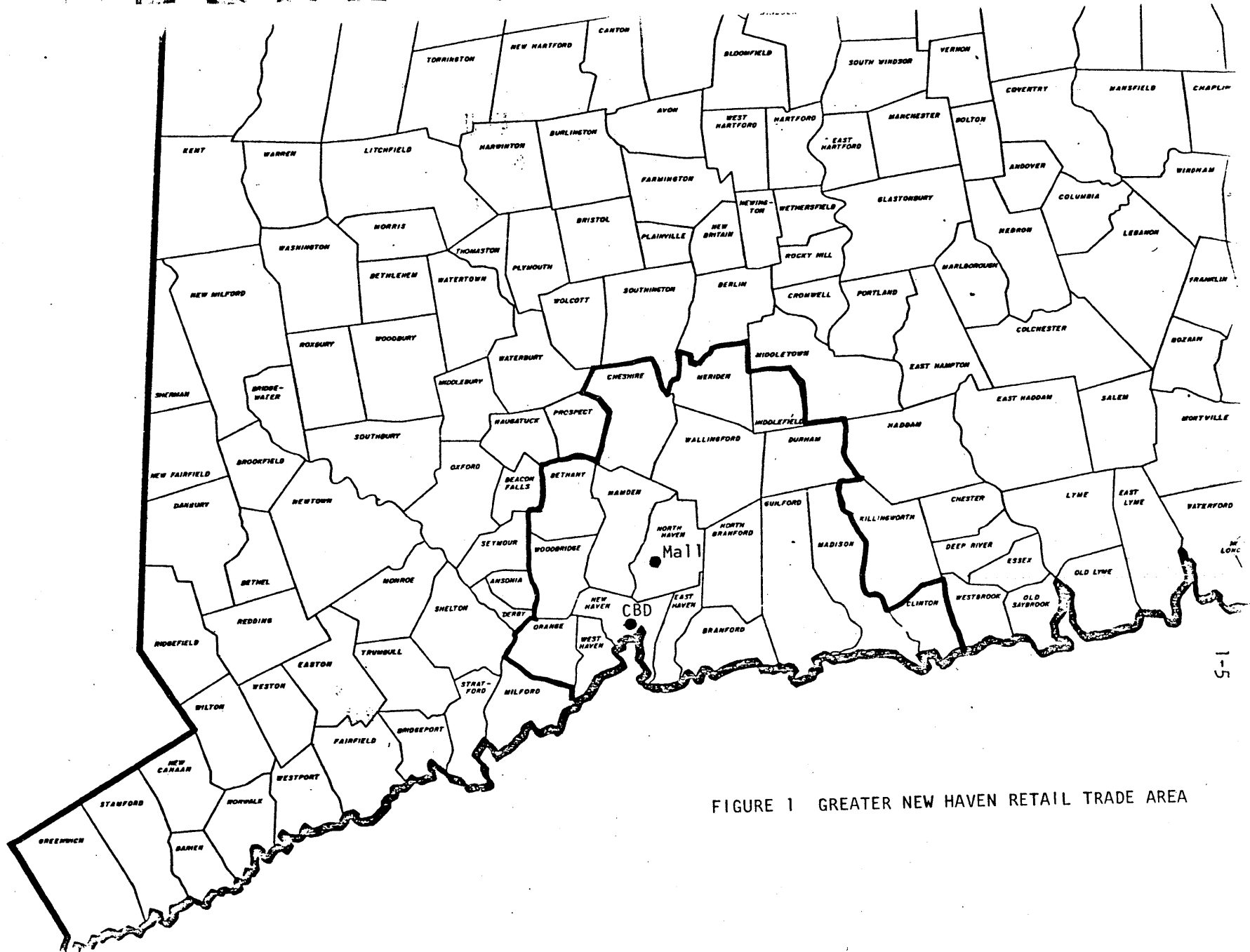


FIGURE 1 GREATER NEW HAVEN RETAIL TRADE AREA

Figure 2

What is Greater New Haven? Is it a county, a retail trade area, a standard metropolitan statistical area, a labor market area, a planning region, a congressional district, a combination of some or all of these -- or something altogether different? Actually, it is all of these and many more. The boundaries of Greater New Haven depend to a large extent on the subject, purpose, and use to be made of the data collected. There is no one boundary which can be drawn to fit all of the economic and social characteristics of the area commonly referred to as Greater New Haven. In the following pages data is provided for some of the more widely known and used concepts of what the South Central Connecticut region is all about. Hence, the data and the maps provide more than information, they also provide new perspectives and insights on this region.

### ALLOCATION OF CITIES AND TOWNS BY TYPE OF REGION

| City or Town   | New Haven County | New Haven Retail Trade Area | New Haven Standard Metropolitan Statistical Area | New Haven Labor Mkt. Area | South Central Conn Planning Region | Third Congressional District |
|----------------|------------------|-----------------------------|--|---------------------------|------------------------------------|------------------------------|
| Ansonia        | X                |                             |  |                           |                                    |                              |
| Beacon Falls   | X                |                             |  |                           | X                                  |                              |
| Bethany        | X                | X                           | X  | X                         | X                                  | X                            |
| Branford       | X                | X                           |  |                           |                                    |                              |
| Cheshire       | X                |                             |  |                           |                                    |                              |
| Chester        |                  | X                           |  |                           |                                    | X                            |
| Clinton        |                  | X                           |  |                           |                                    |                              |
| Deep River     |                  |                             |  |                           |                                    |                              |
| Derby          | X                | X                           |  |                           |                                    |                              |
| Durham         |                  | X                           | X  | X                         | X                                  | X                            |
| East Haven     | X                | X                           |  |                           |                                    |                              |
| Essex          |                  | X                           | X  | X                         | X                                  | X                            |
| Guilford       | X                | X                           | X  | X                         | X                                  | X                            |
| Hamden         | X                | X                           |  |                           |                                    | X                            |
| Killingworth   |                  | X                           |  | X                         | X                                  | X                            |
| Madison        | X                |                             |  |                           | X                                  |                              |
| Meriden        | X                |                             |  |                           |                                    |                              |
| Middlebury     | X                |                             |  |                           | X                                  | X                            |
| Milford        | X                | X                           |  |                           |                                    |                              |
| Naugatuck      | X                |                             | X  | X                         | X                                  | X                            |
| New Haven      | X                | X                           | X  | X                         | X                                  | X                            |
| North Branford | X                | X                           | X  | X                         | X                                  | X                            |
| North Haven    | X                | X                           |  |                           |                                    |                              |
| Old Saybrook   |                  | X                           | X  | X                         | X                                  | X                            |
| Orange         | X                | X                           |  |                           |                                    |                              |
| Oxford         | X                |                             |  |                           |                                    |                              |
| Prospect       | X                |                             |  |                           |                                    |                              |
| Seymour        | X                |                             |  |                           |                                    | X                            |
| Southbury      | X                |                             |  |                           |                                    | X                            |
| Stratford      |                  |                             |  |                           | X                                  |                              |
| Wallingford    | X                | X                           |  |                           |                                    |                              |
| Waterbury      | X                |                             |  |                           |                                    |                              |
| Westbrook      |                  | X                           | X  | X                         | X                                  | X                            |
| West Haven     | X                | X                           |  |                           |                                    |                              |
| Wolcott        | X                |                             | X  | X                         | X                                  | X                            |
| Woodbridge     | X                | X                           | X  |                           |                                    |                              |

ECONOMIC PROFILE 1973-74, p.2

Source: The Greater New Haven Chamber of Commerce

The vital question is: what would be the best way to maintain the vitality and viability for economic growth and to promote welfare of the general public in the entire trade area. Thus the meaning of the public need must be found in the broad context of welfare for the whole society and not for just a few.

### 1.5 New Haven Retail Trade Area's Future

The proposed North Haven Mall presents a particularly difficult problem because it is proposed to be introduced in the 1980's - which, according to the various studies and projections, is likely to be a minimum growth period, or at best a very slow-growth period.

First, population is expected to grow very slowly. The Connecticut Office of Policy & Management (OPM) projections revised by Regional Planning Agency of South Central Connecticut (RPA) show that total Trade Area population is expected to grow from 505,443 in 1980 to 518,290 by 1990, a mere 2.54% increase in ten years. The slow growth is in part an extension of the past record which also showed only 2.1% increase during the last decade, and in part, the continued uncertainty in the economic vitality of the area. Such forecasts will make the proposed Mall much more controversial. In a rapidly growing period, there would be enough share of growth to go around for everybody-- and perhaps, everybody will be better off. But during the non-growth period, the size of a pie is fixed and indeed someone's gain is somebody else's loss. The issue becomes basically the question of redistribution of benefits and wealth among the members of society and business. Such a situation was

\* Inclusion or exclusion of four non-metro towns (Cheshire, Durham, Middlefield, Meriden) is very crucial in the cost-benefit analysis or trying to calculate net benefits for a given society. For example, if these four towns are excluded from the definition of regional society or community, then any transfers from these towns to a metro area is considered benefits to the metro community. In contrast, if these four towns were included as members of the regional community, transfers (sales taken away from these towns in the form of "improved inflows" or "recapture of outflows") from these towns would not be considered benefits.

EXHIBIT 1-1  
Greater New Haven Retail Trade Area  
Population Change 1970, 1980 and 1990

| TOWNS          | (1)     | (2)     | (3)     | (4)                 | (5)                              |          | (6)                              |          |
|----------------|---------|---------|---------|---------------------|----------------------------------|----------|----------------------------------|----------|
|                | 1970    | 1977    | 1980    | % Change<br>170-'80 | 1990 Projection by OPM<br>Number | % Change | 1990 Projection By RPA<br>Number | % Change |
| North Haven    | 22,194  | 22,100  | 22,080  | -.6%                | 24,480                           | 10.9%    | 22,200                           | .5%      |
| New Haven      | 137,707 | 127,500 | 126,109 | -8.5%               | 130,000                          | 3.1%     | 126,110                          | 0        |
| Wallingford    | 35,714  | 36,850  | 37,274  | 4.3%                | 40,500                           | 8.7%     | 39,770                           | 6.7%     |
| Hamden         | 49,359  | 50,500  | 51,071  | 3.4%                | 51,300                           | .3%      | 51,670                           | 1.2%     |
| North Branford | 10,778  | 11,300  | 11,554  | 7.1%                | 12,350                           | 6.9%     | 11,950                           | 3.4%     |
| East Haven     | 25,120  | 25,000  | 25,028  | -.4%                | 24,950                           | -.4%     | 25,430                           | 1.6%     |
| Bethany        | 3,859   | 4,150   | 4,330   | 12.3%               | 4,800                            | 10.9%    | 4,630                            | 6.9%     |
| Woodbridge     | 7,673   | 7,725   | 7,761   | 1.1%                | 8,800                            | 13.4%    | 7,960                            | 2.6%     |
| Orange         | 13,524  | 13,390  | 13,237  | -2.2%               | 14,000                           | 5.8%     | 13,040                           | 1.5%     |
| West Haven     | 52,851  | 53,100  | 53,184  | .4%                 | 54,800                           | 3.0%     | 54,130                           | 1.8%     |
| Branford       | 20,444  | 22,750  | 23,353  | 14.2%               | 23,390                           | .2%      | 24,280                           | 3.9%     |
| Guilford       | 12,033  | 16,400  | 17,375  | 44.3%               | 18,250                           | 5.0%     | 18,880                           | 8.7%     |
| Madison        | 9,768   | 13,250  | 14,031  | 43.6%               | 15,650                           | 11.5%    | 15,650                           | 11.5%    |
| Clinton        | 10,267  | 10,850  | 11,195  | 9.0%                | 12,260                           | 9.5%     | 12,020                           | 7.4%     |
| Durham         | 4,489   | 4,900   | 5,143   | 14.5%               | 6,110                            | 18.8%    | 5,420                            | 5.4%     |
| Middlefield    | 4,132   | 3,400   | 3,796   | -8.2%               | 4,700                            | 23.8%    | 4,100                            | 8.0%     |
| Meriden        | 55,959  | 56,750  | 57,118  | 2.0%                | 58,250                           | 2.0%     | 57,650                           | .9%      |
| Cheshire       | 19,051* | 20,950  | 21,788  | 14.3%               | 26,000                           | 19.3%    | 23,400                           | 7.4%     |
| Total          | 494,918 | 500,825 | 505,437 | 2.1%                | 530,540                          | 5.0%     | 518,290                          | 2.5%     |

Sources:

(1) & (3): U.S. Censuses of Population

(5) Connecticut Office of Policy and Management Projections.  
This projection was made prior to 1980 Census and is regarded to be on the high side.

(6) Projections by Norris Andrew, Regional Planning Agency for South Central Connecticut. See Appendix to Chapter 1.

## EXHIBIT 1-2

POPULATION GROWTH, NEW HAVEN TRADE AREA  
1960 - 1990  
(In thousands)

|                   | (1)<br>1960  | (2)<br>1970  | (3)<br>1980  | (4)<br>1990  | % Change |         |         |
|-------------------|--------------|--------------|--------------|--------------|----------|---------|---------|
|                   |              |              |              |              | '60-'70  | '70-'80 | '80-'90 |
| <u>SMSA</u>       |              |              |              |              |          |         |         |
| New Haven         | 152.0        | 137.7        | 126.1        | 126.1        | -9.4     | -8.4    | 0       |
| Balance           | <u>207.4</u> | <u>273.6</u> | <u>291.5</u> | <u>301.6</u> | 31.9     | 6.5     | 3.5     |
| Total             | 359.4        | 411.3        | 417.6        | 427.7        | 14.4     | 1.5     | 2.4     |
| <u>CT</u>         | 2,535.2      | 3,032.2      | 3,107.6*     | 3,380.1      | 19.6     | 2.4     | 8.8*    |
| <u>TRADE AREA</u> | 431.1        | 494.9        | 505.4        | 518.3        | 14.5     | 2.1     | 2.6     |

SOURCE: (1), (2), and (3): U.S. Censuses of population of respective years.  
(4): Exhibit 1-1, column 6.

\*This forecast was made prior to the release of population counts by the 1980 U.S. Census, and considered to be an optimistic projection.

named as "Zero-sum game" by John Von Neuman and Oskar Morgenstern in their seminal book Theory of Games and Economic Behavior in 1944. This is a critical point, central to the argument.

Second, Real Income Is Expected to Grow Not At All, or Even to Decline.

For retail trade, it is the purchasing power of the population which matters. Population growth will be considerably slowed in the years ahead and increase in per capita real income is expected to be stagnant and likely not grow at all--and even may decline. This conclusion is based on the past record of a slow income growth when there is future uncertainty.

Exhibit 1-3

PER CAPITA INCOME TRENDS, New Haven Trade Area  
1972-1977

(In 1977 Constant Dollars\*)

|                           | 1969    | 1972  | 1975  | 1977  | %<br>Change<br>69-77 | Average<br>Annual<br>Change |
|---------------------------|---------|-------|-------|-------|----------------------|-----------------------------|
| New Haven-West Haven SMSA |         |       |       |       |                      |                             |
| New Haven                 | \$5,351 | 5,428 | 5,159 | 5,032 | -1.9%                | -.2%                        |
| Balance of SMSA           | 6,534   | 6,679 | 6,378 | 6,493 | -.6%                 | -.1%                        |
| Total                     | 6,137   | 6,269 | 5,990 | 6,100 | -.6%                 | -.1%                        |

Source: U.S. Census, P-25 Estimates. \*Adjusted by CPI.

Note: The U.S. Bureau of Census recently revised the earlier estimates which the Gladstone Report used. Exhibit 1-3 is based on the most current data.

As shown in Exhibit 1-3, between 1969 and 1977, per capita income registered a slight decline reflecting economic downturn experienced throughout the nation, but also weakened New Haven Area's economic environment relative to the rest of the nation.

From Exhibit 1-4, we observe that this is in part due to erosion of the economic base of the community such as declining manufacturing jobs.



EXHIBIT 1-4

TOTAL EMPLOYMENT BY INDUSTRY  
NEW HAVEN LABOR MARKET AREA  
1974, 1979, 1980, 1985

| Industry                            | 1974    |         | 1979    |         | 1980    |         | 1985    |         |
|-------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                     | Number  | Percent | Number  | Percent | Number  | Percent | Number  | Percent |
| Total Employment                    | 188,020 | 100.0   | 191,470 | 100.0   | 193,070 | 100.0   | 201,940 | 100.0   |
| Nonag. Employment<br>(ex. domestic) | 186,150 | 99.0    | 189,850 | 99.2    | 191,490 | 99.2    | 200,420 | 99.2    |
| Manufacturing                       | 48,610  | 25.8    | 44,620  | 23.3    | 44,930  | 23.3    | 46,260  | 22.9    |
| Apparel & Leather                   | 3,900   | 2.1     | 3,570   | 1.9     | 3,530   | 1.8     | 3,350   | 1.7     |
| Printing & Publ.                    | 3,260   | 1.2     | 3,450   | 1.8     | 3,460   | 1.8     | 3,550   | 1.8     |
| Chemicals                           | 3,380   | 1.8     | 3,420   | 1.8     | 3,410   | 1.8     | 3,630   | 1.8     |
| Rub.&Misc. Pl.Prod.                 | 2,760   | 1.5     | 2,320   | 1.2     | 2,340   | 1.2     | 2,390   | 1.2     |
| Primary Metals                      | 5,200   | 2.8     | 4,960   | 2.6     | 4,950   | 2.6     | 4,960   | 2.5     |
| Fabricated Metals                   | 8,970   | 4.5     | 8,360   | 4.4     | 8,570   | 4.4     | 9,010   | 4.5     |
| Machinery                           | 3,200   | 1.7     | 3,510   | 1.8     | 3,500   | 1.8     | 3,490   | 1.7     |
| Elec. & Trans. Eq.                  | 9,310   | 4.9     | 7,780   | 4.1     | 7,860   | 4.0     | 8,390   | 4.2     |
| Other Manufacturing                 | 8,810   | 4.7     | 7,250   | 3.8     | 7,310   | 3.8     | 7,490   | 3.7     |
| Nonmanufacturing                    | 137,540 | 73.2    | 145,230 | 75.8    | 146,560 | 75.9    | 154,160 | 76.3    |
| Construction                        | 9,980   | 5.3     | 9,180   | 4.8     | 9,270   | 4.8     | 9,450   | 4.7     |
| Trans. (Incl. R.R.)                 | 6,990   | 3.7     | 7,080   | 3.7     | 7,060   | 3.7     | 6,910   | 3.4     |
| Comm. & Utilities                   | 7,790   | 4.1     | 8,220   | 4.3     | 8,250   | 4.3     | 8,730   | 4.3     |
| Trade                               | 39,050  | 20.8    | 41,660  | 21.6    | 42,140  | 21.8    | 44,780  | 22.2    |
| Wholesale                           | 10,590  | 5.6     | 10,650  | 5.6     | 10,780  | 5.6     | 11,820  | 5.9     |
| Retail                              | 28,460  | 15.1    | 31,010  | 16.2    | 31,360  | 16.2    | 32,960  | 16.3    |
| Fin., Ins. & R.E.                   | 9,510   | 5.1     | 10,360  | 5.4     | 10,520  | 5.4     | 11,500  | 5.7     |
| Service                             | 57,060  | 30.4    | 60,670  | 31.7    | 61,260  | 31.7    | 64,880  | 32.1    |
| Government                          | 7,160   | 3.8     | 8,060   | 4.2     | 8,060   | 4.2     | 7,910   | 3.9     |
| Agricultural Employ.                | 1,870   | 1.0     | 1,620   | 0.8     | 1,580   | 0.8     | 1,520   | 0.8     |

Source: New Haven Area Overall Economic Development Report, New Haven, 1970; 1979-80, Office of Economic Development.

Between 1972 and 1979 manufacturing jobs fell from 46,940 to 44,750. Construction sector employment fell from 8,530 in 1972 to 6,130 in 1979. Although the lost employment was more than offset by the non-manufacturing sector's gain, the area's employment showed a gain of a mere 1.2% in 7 years. Be it population, income, or employment - all registered "minimum growth" stances.

As of today- March 1982 - there is no clear sign of economic upturn nationally and/or locally, and various long-term economic indicators are uncertain.

It is a natural conclusion that when the income increment will not keep pace with the inflation rate, the purchasing power of income will be diminished. When real income declines or stagnates, we would not reasonably expect personal consumption expenditures to grow. Of course, for some unknown reasons and external events, the economy may revive unexpectedly and our per capita income may increase beyond expectations, but considering the performance of the past decade and uncertain time expected ahead, "zero income" growth, although we do not wish it to happen again, seems to be a realistic assumption for planning purposes.

Third, Consumers Now Spend A Smaller Share Of Their Income For Shoppers Goods: In addition to slow population and real income growth, it is observed that the percent of consumer expenditures on shopping goods or G.A.F. (General Merchandises, Apparel, and Furniture) has been falling since 1972, and if the trend will continue, smaller and smaller shares of consumer expenditures will go to shoppers goods.

As shown in Exhibit 1-5, the percentage was as high as 15.9 percent in

EXHIBIT 1-5

Shoppers Goods and Housing as  
Percent of Personal Consumption 1963-1979, United States  
(In Billions of 1979 Dollars)

| Outlay   | 1963  | 1967  | 1972 | 1977 | 1978 | 1979 | % Change<br>1969-1979 | % Change<br>1972-1979 | % Change<br>1967-1972 |
|--|-------|-------|------|------|------|------|-----------------------|-----------------------|-----------------------|
| Total Personal Consumption                           | \$875 | 1055  | 1287 | 1465 | 1534 | 1519 | 44.0                  | 18.0                  | 22.0                  |
| Retail Sales   | \$510 | 590   | 769  | 856  | 884  | 873  | 48.0                  | 13.5                  | 30.3                  |
| Shoppers Goods*                                      |       | 160   | 205  | 208  | 214  | 209  | 30.6                  | 2.0                   | 28.1                  |
| Gasoline, Fuel                                       | \$ 40 | 44    | 53   | 71   | 72   | 77   | 75.0                  | 45.2                  | 20.4                  |
| Housing, Operation of Housing                        | \$190 | 210   | 270  | 316  | 335  | 336  | 60.0                  | 24.4                  | 28.6                  |
| % Shopper Goods of Personal Consumption              | N/A   | 15.2% | 15.9 | 14.2 | 14.0 | 13.8 | -9.2                  | -13.2                 | 4.6                   |
| % Housing, Fuel and Gasoline of Personal Consumption | 26.3% | 24.1  | 25.1 | 26.4 | 26.5 | 27.2 | 12.9                  | 8.4                   | 4.1                   |

\*GAF only

SOURCE: Department of Commerce, Survey of Current Business, Census of Retail Trade.  
Quoted from Thomas Muller, "Regional Malls and Central City Retail Sales: An Overview," In George Sternlieb and James W. Hughes (ed.), Shopping Centers: U.S.A., (Piscataway, N.J.: Center for Urban Policy Research, Rutgers, the State University of New Jersey, 1981), p.183.

1972 but it slipped to a level of 13.8 percent in 1979. In contrast, the percentage of consumer expenditures on housing, fuel and gasoline increased from 25.1 percent in 1972 to 27.2 percent in 1979. Thus, we can see that due to rising prices of oil-related products since the 1973 Oil Shock, we are spending more income for housing, fuel and gasoline, and less for other relatively non-essential items. In other words income elasticities for food, housing, and gasoline are relatively inelastic compared to GAF. This presents an interesting case of measuring the cross elasticities of oil-related products with respect to Shoppers Goods.

Similarly, percent of Shoppers Goods sales of money\* income also declined since 1972. As shown in Exhibit 1-6, for selected ten northern SMSAs, percent of money income spent on shoppers goods declined from 15.1 in 1972 to 14.1 in 1977. Stated differently, per capita shoppers goods sales dropped from \$987 in 1972 to \$895 in 1977. (See Exhibit 1-6)

According to the Gladstone Report, the percent of shoppers goods sales of money income for the southern New England (Connecticut, Massachusetts and Rhode Island) during 1972 and 1977 registered no change and remained a constant 13.5 percent. (See Exhibit 1-7)

According to Regional Planning Agency of South Central Connecticut, "For the same year (1977) for the State of Connecticut only, the percentage decreased to 12.6%, probably due in large part to leakage or outflow to New York." The RPA further observed that the application of smaller percentage in the future would be justified on the ground that "the historic trend ...indicates that smaller percentages of purchasing power are diverted to shopper goods sales. This is particularly apparent when one considers the

\* Money income includes wages and salaries, Social Security and welfare payments, interest and dividends rental income, veterans' benefits, pensions and annuities, unemployment benefits, alimony and other money income. Conceptually, money income differs from personal income in that the former excludes such items as income received from the sale of property, loans, bank withdrawals, capital gains, gifts, insurance payments, lump sum inheritances in addition to forms of nonmoney income, all of which are included in the definition of personal income.

**EXHIBIT 1-6**  
**Shoppers Goods as percent of Money Income**  
**and Per Capita Shoppers Goods Sales**

Selected Northern SMSA\*

(In Billions of 1977 Dollars)

|                                 | Central City |        | Balance of SMSA |        | SMSA Total |        | U.S. Total |        |                |
|---------------------------------|--------------|--------|-----------------|--------|------------|--------|------------|--------|----------------|
|                                 | 1972         | 1977   | 1972            | 1977   | 1972       | 1977   | 1972       | 1977   | Percent Change |
| Shoppers Goods Sales            | \$ 16.7      | 12.6   | 21.3            | 22.5   | 38.0       | 35.1   | 171.5      | 174.0  | 2.1%           |
| Money Income                    | \$101.2      | 93.5   | 151.1           | 156.2  | 252.3      | 249.7  | 1140.1     | 1249.1 | 9.6%           |
| Percent of S.G. of Money Income | 16.5%        | 13.5   | 14.1            | 14.4   | 15.1       | 14.1   | 15.0       | 13.9   | -7.3%          |
| Population in Millions          | 17.6         | 16.4   | 22.3            | 22.8   | 39.9       | 39.2   | 208.1      | 216.1  | 3.8%           |
| Per Capita S.G. Sales           | \$950.       | \$769. | \$955.          | \$987. | \$952.     | \$895. | \$824.     | \$805  | -2.3%          |

Source: Survey of Current Business, Census of Retail Trade. Based on data supplied by Thomas Muller. See Exhibit 1-5.

\* Includes Boston, Chicago, Cleveland Detroit, New York, Newark, Philadelphia, Pittsburgh, Kansas City, and St. Louis.

## EXHIBIT 1-7

SHOPPER'S GOODS SALES AS A PERCENT OF INCOME 1/SOUTHERN NEW ENGLAND 2/

1972-1977  
(In 1977 constant dollars)

|                              | <u>1972</u>   |  | <u>1977</u>   |  |
|------------------------------|---------------|--|---------------|--|
|                              | <u>Number</u> | <u>As a<br/>Percent<br/>Aggregate<br/>Income</u> | <u>Number</u> | <u>As a<br/>Percent<br/>Aggregate<br/>Income</u> |
| Population                   | 9,824,018     | --   | 9,990,062     | --   |
| Per Capita Income            | \$ 6,144      | --   | \$ 6,188      | --   |
| Aggregate Income             | \$60,358,766  | --   | \$61,818,503* | --   |
| <u>Shoppers Goods Sales</u>  |               |  |               |  |
| General Merchandise          | \$ 4,040,784  | 6.7%   | \$ 4,115,353  | 6.7%   |
| Apparel                      | \$ 1,689,143  | 2.8%   | \$ 1,805,344  | 2.9%   |
| Furniture                    | \$ 1,519,288  | 2.5%   | \$ 1,363,258  | 2.2%   |
| Miscellaneous Shoppers Goods | \$ 913,718    | 1.5%   | \$ 1,063,327  | 1.7%   |
| Total                        | \$ 8,162,933  | 13.5%  | \$8,347,282   | 13.5%  |

1/ Adjusted to reflect State Sales Tax.

2/ Includes Rhode Island, Massachusetts and Connecticut

3/ Converted using PCI for income and retail CPI for sales

SOURCE: U.S. Census of Retail Trade; U.S. Census P-25 Estimates;  
Gladstone Associates

\* An apparent mistyping error in the Gladstone Report has been corrected.

major impact of inflation in only three areas--housing, energy, and transportation. Obviously if more income is spent for these, less is left for shopping goods." \*

This will lead to a reasonable expectation that the percentage of personal consumption expenditures and of money income allocated for Shoppers Goods will likely continue to decline, and at best cannot be expected to increase. For this reason, 12.5% of money income has been adopted for projecting the aggregate purchasing power of the trade area.

Fourth, Total Demand For Shoppers Goods Will Not Grow At All: The market potential for shoppers goods in the New Haven Trade Area under consideration is expected not to grow at all. This conclusion is arrived at using the following equation: (See Exhibit 1-8)

$$\begin{array}{l} \text{Trade Area} \\ \text{Aggregate} \\ \text{Shoppers Goods} \\ \text{Demand in 1990} \end{array} = \sum_i \begin{array}{l} \text{Population} \\ \text{of Town i} \\ \text{in 1990} \end{array} \times \left( \begin{array}{l} \text{Per Capita} \\ \text{Income of} \\ \text{Town i} \\ \text{in 1990} \end{array} \times \begin{array}{l} \% \text{ of Income} \\ \text{spent for} \\ \text{Shoppers Goods} \end{array} \right)$$

Since population will grow only by 2.5%, real capita income is assumed to grow at "Zero" rate, the decline in percent of income spent for Shoppers Goods (from 13.5% in 1977 to 12.5% in 1990), will lessen demand for Shoppers Goods and thus demand will be expected to grow not at all. Exhibit 1-8, prepared by the Regional Planning Agency of South Central Connecticut, shows that the Shoppers Goods purchasing power of the trade area will virtually remain the same between 1977 (Base Year) and 1990 at \$404 million (expressed in 1977 constant dollars).

What we are confronted with is a situation of making a choice in a period of non-growth. Competition in the market place will become increasingly more severe and in the environment of "Zero-sum game" will force

EXHIBIT 1-8

POPULATION, INCOME, PURCHASING POWER,

AND GAF DEMAND PROJECTIONS

1977 and 1990

| Towns          | 1977              |               |                            |                           | 1990                          |               |                            |                           |
|----------------|-------------------|---------------|----------------------------|---------------------------|-------------------------------|---------------|----------------------------|---------------------------|
|                | (1)<br>Population | (2)<br>Income | (3)<br>Purchasing<br>Power | (4)<br>Shopper's<br>Goods | (5)<br>Adjusted<br>Population | (6)<br>Income | (7)<br>Purchasing<br>Power | (8)<br>Shopper's<br>Goods |
| North Haven    | 22,100            | 6,737         | 148,888                    | 20,100                    | 22,050                        | 7,411         | 163,413                    | 20,427                    |
| New Haven      | 127,500           | 5,032         | 641,580                    | 86,613                    | 120,510                       | 4,782         | 576,279                    | 72,035                    |
| Wallingford    | 36,850            | 6,058         | 223,237                    | 30,137                    | 39,145                        | 6,631         | 249,001                    | 31,125                    |
| Hamden         | 50,500            | 6,368         | 321,584                    | 43,414                    | 50,550                        | 6,687         | 338,028                    | 42,254                    |
| North Branford | 11,300            | 5,727         | 64,715                     | 8,737                     | 11,900                        | 5,341         | 63,558                     | 7,945                     |
| East Haven     | 25,000            | 5,151         | 128,775                    | 17,385                    | 25,235                        | 4,944         | 124,762                    | 15,595                    |
| Bethany        | 4,150             | 7,638         | 31,698                     | 4,279                     | 4,630                         | 9,066         | 41,976                     | 5,247                     |
| Woodbridge     | 7,725             | 11,284        | 87,169                     | 11,768                    | 7,960                         | 16,926        | 134,731                    | 16,841                    |
| Orange         | 13,350            | 8,494         | 113,395                    | 15,308                    | 12,940                        | 11,042        | 142,893                    | 17,862                    |
| West Haven     | 53,100            | 5,554         | 294,917                    | 39,814                    | 53,455                        | 5,326         | 284,701                    | 35,588                    |
| Branford       | 22,750            | 6,907         | 157,134                    | 21,213                    | 24,125                        | 7,943         | 191,635                    | 23,954                    |
| Guilford       | 16,400            | 7,070         | 115,948                    | 15,653                    | 18,705                        | 8,484         | 158,693                    | 19,837                    |
| Madison        | 13,250            | 7,107         | 94,168                     | 12,713                    | 15,450                        | 9,531         | 147,254                    | 18,407                    |
| Clinton        | 10,850            | 5,783         | 62,746                     | 8,471                     | 11,195                        | 5,894         | 65,983                     | 8,248                     |
| Sub-Total      |                   |               | 2,485,954                  | 335,605                   | 417,850                       |               | 2,682,907                  | 335,365                   |
| Durham         | 4,900             | 6,070         | 29,743                     | 4,015                     | 5,223                         | 6,784         | 35,433                     | 4,429                     |
| Middlefield    | 3,400             | 6,193         | 21,056                     | 2,843                     | 4,100                         | 6,922         | 28,380                     | 3,548                     |
| Meriden        | 56,750            | 5,596         | 317,573                    | 42,872                    | 57,127                        | 5,316         | 303,687                    | 37,961                    |
| Cheshire       | 20,950            | 6,805         | 142,565                    | 19,246                    | 22,887                        | 8,066         | 184,607                    | 23,076                    |
| Sub-Total      |                   |               | 510,937                    | 68,976                    | 89,337                        |               | 552,107                    | 69,014                    |
| GAF Total      |                   |               | 2,996,891                  | 404,581                   | 507,187                       |               | 3,235,014                  | 404,379                   |

Source: Norris Andrews, Regional Planning Agency of South Central Connecticut. See Appendix to Chapter 1.



a trade-off of well-being and income, among the various members of society.

### 1.6 Alternative Futures

Any discussion of alternative futures is predicated on the competition between two strong regional centers -- one in New Haven and one proposed in North Haven. The New Haven plans, drawn by the Rouse Company, calls on one or two new department stores to be added. (New Haven has embarked on a redevelopment of its retail core and attracted substantial interest from two major developers; the Rouse Company, and Westcliffe Management Inc. The City has received a proposal from Rouse and is involved in detailed discussions with them.)

To the extent that the proposed North Haven Mall will be located only 7.5 miles or 13 minutes driving distance away from the CBD of New Haven, and the size of the proposed Mall (1.12 million square feet) with four anchor department stores compared to Downtown New Haven's 1.1 million square feet with two department stores,\*\* conflict arises over the desirability of the former because of its potentially severe negative impact on the latter. The issue has therefore centered around whether the negative impact on the New Haven CBD is going to be as serious as the Mall opponents would claim, or very minimal, as the Mall developers would have us believe. We shall set an analytical framework in which we will attempt to measure the impact of North Haven Mall on the New Haven CBD, and ultimately on the entire region.

\* North Haven Mall will be anchored by Macy, J.C. Penney, Sears and Roebuck, and G. Fox department stores. At present, Sears is in Hamden, and J.C. Penney is in North Haven and they are planned to be relocated to the North Haven Mall. Macy has a store in downtown New Haven, and G. Fox is located in Meriden Square in Meriden.

\*\* Macy and Edward Malley's. The latter has been recently closed.

### The Four Alternatives

The choice between having the North Haven Mall or not having it is basically a choice among four alternative futures. These four futures are: (See Exhibit 1-9).

- F<sub>1</sub> ...Without North Haven Mall as well as without CBD redevelopment. This is called Trend-Line Future.
- F<sub>2</sub> ...With North Haven Development and also with New Haven CBD redevelopment.
- F<sub>3</sub> ...Without North Haven Mall development but with New Haven CBD Redevelopment. We will call it Base-Line Future as it is discussed in the text.
- F<sub>4</sub> ...With North Haven Development but without New Haven CBD redevelopment.

These alternative futures would have varying degree of impacts on downtown New Haven's retail sales as shown in Exhibit 1-9.

Trend Line future (F<sub>1</sub>) represents a simple extension or extrapolation of the past. Application of ordinary least square method to 1958-77 trend of the NewHaven downtown's Shoppers Goods sale indicated the level of sales in 1985 to be \$77.2 million and \$65.7 million in 1990. Such a trend-line future does not take into account the policy variables (plans and commitments) which play an important role in shaping the future. The Trend-Line future, however, serves a vital role in planning because the value of the plan may be evaluated or measured in terms of deviations from the no-action positions exemplified by the Trend-Line future.

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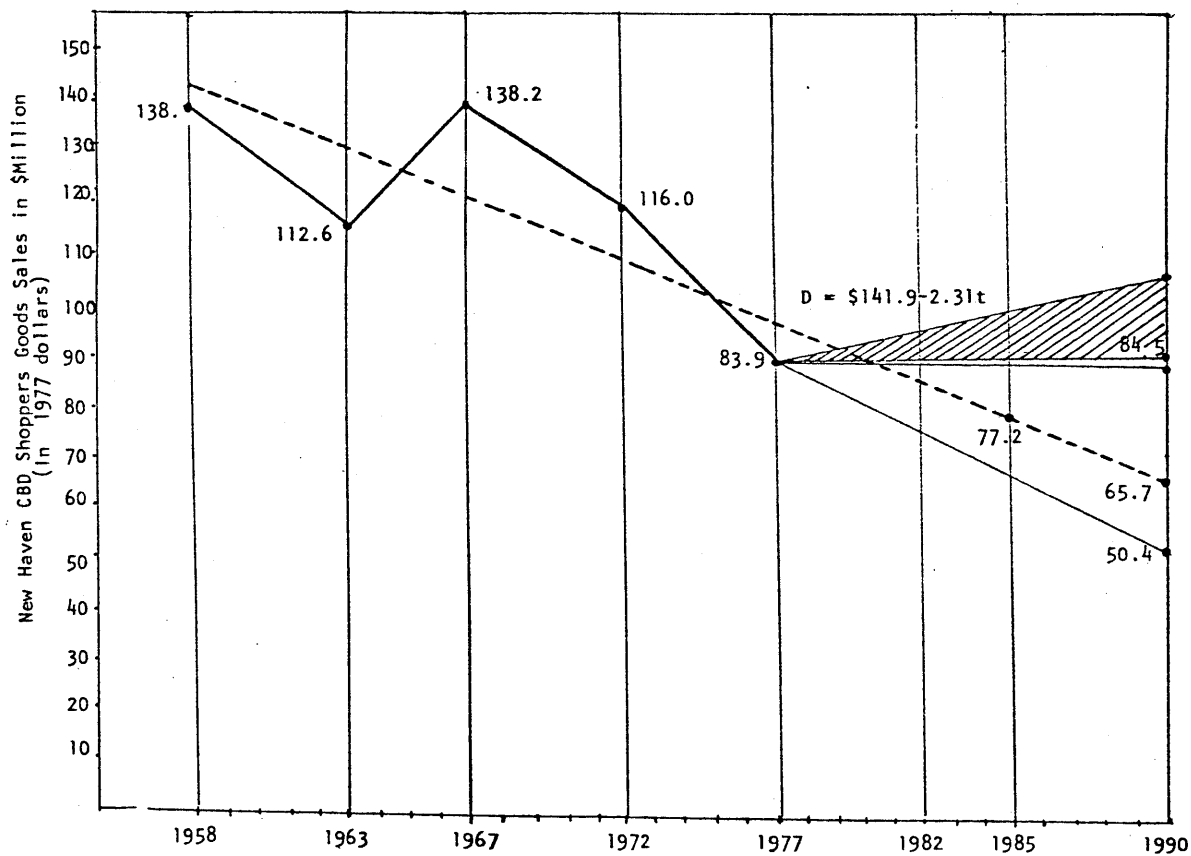


EXHIBIT 1-9  
ALTERNATIVE FUTURES FOR  
NEW HAVEN DOWNTOWN

- Potential Futures with CBD Redevelopment.
- Baseline Future  $F_3$  (assumed to be the same as 1977 level.)
- Trend-Line Future (Ordinary Least Square Line)  $F_1$
- Future With North Haven Mall (\$15.3 million loss)  $F_4$
- \* $F_2$  future (both North Haven Mall and New Haven CBD Redevelopment) is not shown.

Both Centers (F<sub>2</sub>) is also a possible future under normal growth period. But given the forecasted future growth, which is very slow at best, the development of both downtown New Haven and the North Haven Mall at the scale they are planning, would be very difficult for the market purchasing power to support. The head-on competitions between these two centers would result in wasted allocation of social resources and investments. This is particularly true when we take into consideration the other large shopping facilities such as Connecticut Post Center in Milford, Magic Mile in Hamden, and others. These existing centers will also be affected. For this study, we will therefore consider New Haven CBD redevelopment and North Haven Mall development, at the scale of the current plans, to be mutually exclusive, diametrically opposed to each other and in total conflict. They are competing for the same shoppers' dollars. Thus, F<sub>2</sub> is eliminated from our consideration.

No, North Haven, Yes, New Haven (F<sub>3</sub>) is a potential future with New Haven CBD redevelopment but without the North Haven Mall development. Thus the effect of deliberate action (re-redevelopment) is shown as upward adjustment of retail sales of Downtown New Haven from the Trend-line future. The extent of upward adjustment on CBD retail sales is dependent on the size of the proposed redevelopment plan. As shown in Exhibit 1-10, redevelopment plans proposed by the Rouse Company show five alternative programs. Without the North Haven Mall assumption, three programs (I, III, and V) are presented each having a different impact on downtown sales. Rouse Company estimates (expressed in 1977 constant dollars) indicate that the improvement in retail sales would range between \$4.1 million and

# EXHIBIT 1-10

CBD REDEVELOPMENT PLAN PROPOSED BY ROUSE COMPANY  
(In 1977 Constant Dollars)  
All programs assume different degree of New Haven CBD redevelopment

| Alternate Program | Competitive* Assumption | (1)<br>Total Center Sale Volume 1989 | (2)<br>Changes in sales Due to Additions | (3)<br>Macy | (4)<br>Malley** | (5)<br>New Mall | (6)<br>Chapel Square Mall | (7)<br>New 3rd Department Store |
|-------------------|-------------------------|--------------------------------------|--|-------------|-----------------|-----------------|---------------------------|---------------------------------|
| I                 | w/o North Haven Mall    | 48.5                                 | 7.4                                      | 17.5        | (11.8)          | 19.2            | -                         | -                               |
| II                | w North Haven Mall      | 37.9                                 | 4.3                                      | 14.4        | (9.6)           | 13.9            | -                         | -                               |
| III               | w/o North Haven Mall    | 61.2                                 | 4.1                                      | 17.4        | (11.8)          | 15.9            | 16.1                      | -                               |
| IV                | w North Haven Mall      | 47.9                                 | 1.8                                      | 14.7        | (9.8)           | 11.6            | 11.8                      | -                               |
| V                 | w/o North Haven Mall    | 69.5                                 | 18.8                                     | 15.0        | (9.7)           | 11.9            | 16.3                      | 16.6                            |

\* All programs assume additional retail development to occur in the New Haven - Bridgeport corridor - perhaps at the D'addario site.

\*\* Recently Closed. (1)=(3)+(4)+(5)+(6)+(7)

(2)=(5)+(7)-(4)

Net effect of new additions by Rouse proposals and the closing of Malley. No allowances for added sales by Macy and Chapel Square Mall assumed.

\$18.8 million in 1977 dollars. These estimates reflect the adjustments due to the recent closing of Edward Malley Department store; but further replanning of the downtown may ensue by the Rouse Company. For this study, we adopted Rouse Program V (two department stores and two malls) as more realistic and assumed it would add \$18.8 million worth of retail sales to the Downtown by the time it would be completed in 1986. Adding this \$18.8 million to the \$65.7 million Trend-Line future results in \$84.5 million as the Base-Line future for the New Haven CBD.

For this study, we have assumed that the retail sales volume of downtown New Haven during the 1985-1990 period will remain at the level of 1977 (Base Year for this study) retail sales. It is entirely possible that the sales volume could be somewhat higher than the 1977 level depending on the prevailing market potential, competitive environment in 1985, and the extent of redevelopment planned by the City.

Whatever New Haven CBD redevelopment plans, they will be successful only to the extent of preventing the sales activities to reach trend-line level,  $F_1$ . This assumption is fully consistent with zero-growth, or at best slow growth, future forecast presented earlier, and the plans drafted by the Rouse Company. Indeed New Haven has to work, just as other retail shopping facilities throughout the region, to hold on to what shopper dollars they have or to regain what they lost in the recent past.

With North Haven Mall, Without New Haven CBD Redevelopment ( $F_4$ ): The future with the North Haven Mall but without the New Haven CBD redevelopment, is another potential future whose impact is under consideration.

The effects of the North Haven Mall would be measured in terms of deviations from the trend-line future on one hand, and in terms of deviations from the  $F_3$  (Base-line) future on the other. The latter comparison is consistent with the principle of "opportunity cost" which is applied here.  $F_3$  and  $F_4$ , when they are mutually exclusive, the cost of attaining  $F_4$  is giving up  $F_3$ , and vice versa. The "opportunity cost" of the North Haven Mall is based on the health of Downtown New Haven, or more bluntly, on its lack of vitality. New Haven's CBD must be sacrificed to the North Haven Mall, in this alternative.

In comparing  $F_3$  and  $F_4$ , one must be aware that the cost of selecting a future with North Haven Mall ( $F_4$ ) is to give up the future without North Haven ( $F_3$ ) forever. In contrast, the cost of adopting the future without North Haven Mall at this time is to give up the future with North Haven Mall for the next ten years but perhaps not forever... to the extent that the future growth after the 1980's may turn out to be better.

It is conceivable that the changes to come in the Future economic condition of the trade area would make it less controversial to introduce the North Haven Mall, assuming the site would be still available. The strengthening of the economic viability and vitality of downtown New Haven and the city of New Haven might lead to downtown and overall metropolitan area-wide renewal as witnessed in the Stamford SMSA, and ultimately conducive to the development of a suburban shopping facility such as North Haven Mall within the "environment of growth" period. (As we discuss in Section 4 of this report, commercial development is to a large extent 'growth-serving' instead of 'growth-inducing' industry.) In contrast, developing the North Haven Mall today would be an irreparable blow to the

economic health of downtown New Haven and ultimately to the City and region as a whole.

### 1.7 Economic Evaluation Criteria

The foregoing nature of the problem leads to two specific criteria for evaluating the performance of the proposed project. The North Haven Mall project is desirable if it leads to an economy or a society where, (1) no reallocation of inputs and outputs can improve the welfare of some without worsening the welfare of others, and (2) income and wealth are equitably distributed. Criterion 1 is known as the efficiency criterion or the Pareto Criterion, named after a 19th century Italian economist who first defined it; and Criterion 2 is known as the equity criterion.

Undoubtedly the real world is abundant with the situations where the proposed change cannot meet the Pareto Criterion and certainly the North Haven Mall is no exception. The North Haven Mall issue is controversial because it favors one group and disfavors others. The proposed North Haven Mall also has a strong overtone on the redistribution of income among the residents of the Greater New Haven area.

Since the application of the Pareto criterion is difficult to apply, we may use the Hicksian Compensation Test by asking: Does the proposed North Haven Mall yield sufficiently large benefits which can compensate the negatively impacted for the damages they suffer? Not only do the benefits exceed the costs, but would there be a real mechanism by which the adversely impacted would be adequately compensated? If it is proven that there would be positive net benefits, we would say that the project met the efficiency tests. However, if the net benefits are not actually used to compensate



the deprived, the project fails the equity criterion. Obviously, if the net benefits are used for actually compensating the deprived, restoring them to at least their original level of welfare, we would say that the proposed project meets both efficiency and equity criteria.

## Appendix to Chapter 1

Prepared by: Norris Andrews, Executive Director, Regional Planning  
Agency of South Central Connecticut\*

TABLE I

The 1977 estimate prepared by Gladstone was based on estimates of 1980 population. When 1977 is corrected using 1980 final count as a basis, many towns show a difference which totals, for the market area, 7,384 less persons.

The Gladstone projections for 1990 and 2000 were based on projections prepared statewide by the Office of Policy and Management and the State Department of Health. Unfortunately, these projections were based on an estimated 1980 population prepared before the release of the preliminary count. These forecasts are considerably higher than the most recent projections circulated to the region for comment in July, 1981. On a regional basis, the population forecasts for the year 2000 shows a loss of almost 20,000 persons from the estimate used by Gladstone.

The final column in Table I is based on the most recent projections and is in substantial agreement with the State.

TABLE II

This table depicts the Gladstone estimate of purchasing power (population times income) and GAF estimate based on 13.5% of purchasing power. When this is compared to the revised 1977 population estimate and minor adjustments in per capita income, there is a difference of approximately \$12 million in the GAF column.

The slight difference in income cannot be explained. The average is close in both, but significant variations by town exist.

TABLE III

Dollars available for shopper goods sales are compared for 1990 and a 0% income growth. This provides for a revised base line estimate. No attempt has been made to develop comparable information for 2000.

As in Table II, there is a considerable difference in the dollars available. In fact the margin is increasing and is now \$21 million or the equivalent of the GAF sales for the town of North Haven.

TABLE IV

This table is based on an assumption that total population is not a true indication of total purchasing power. There are many persons who are not in a position to purchase goods--the elderly in nursing homes and hospitals, in prison, and those in educational institutions who probably would not go to a major shopping center.

\*This is a part of the materials submitted by Norris Andrews to the Army Corps of Engineers on October 15, 1981.

Page 2.

The towns in the trade area show a total of 16,800 persons in group quarters, or about 3% of the population. I have adjusted this number by town based on the characteristic of group quarters in each town. For the year 1990 the difference with Gladstone's 1990 estimate is 43,000 persons.

TABLE V

Gladstone bases available income for GAF sales on 13.5% of purchasing power. This percentage is based on sales in Connecticut, Massachusetts and Rhode Island in 1977. For the same year the State of Connecticut percentage was 12.6%.

One could question Gladstone methodology—obviously the desire is to make the numbers as high as possible, thus the larger region. However, one could assume, based on shopper trends as well as the continued erosion of available dollars because of the increased rate of inflation in non-shopper goods, that the percent available would decrease.

Thus, Table V is based on two assumptions. First, not all the population will be in the market, and second, events since 1977 have eroded the dollars available for shopper goods.

As you can see I have based my work on only the most recent statistics plus the projection to the year 1990 for the population. My only defense in using revised projections is based only on the fact that I have been projecting population in this region since 1950 and my track record over those 30 years is pretty good. And, I consider my expertise to be solely in this field.

If the revised purchasing power for 1977 and 1990 for shoppers goods only is compared with Gladstone, very significant differences appear. For example, the table on page 195 would be modified thus:

|                     |         |                                     |
|---------------------|---------|-------------------------------------|
| Shopper Goods Sales | 374,813 |                                     |
| Sales Retention     | 285,627 |                                     |
| Sales Inflow        | 89,186  |                                     |
| Metro Consumer Exp. | 335,605 | (Table II)                          |
| Sales Retention     | 285,627 |                                     |
| Sales Outflow       | 49,978  |                                     |
| Net Inflow          | 39,208  | (As opposed to<br>Gladstone 28,608) |

Page 3.

The table on page 198 also shows when projected to 1990 only the following:

|                          |                                   |
|--------------------------|-----------------------------------|
| SMSA Shopper Goods Sales | 368.3 (and I dispute this number) |
| Sales Retention          | 290.2 (also)                      |
| Sales Inflow             | 78.1                              |
| SMSA Purchasing Power    | 347.2 (Table III)                 |
| Sales Retention          | 290.2                             |
| Sales Outflow            | 57.0                              |
| Net Inflow (78.1 - 57.0) | 21.1 (Instead of Gladstone 7.7)   |

These are baseline conditions which I interpret to mean that existing retail space with no addition will generate \$21 million GAF sales inflow in 1990. And the only way Gladstone can justify the projected 85 million GAF in the Mall is by transfer sales and recapture of leakage. In their analysis they make major assumptions but based only on existing conditions. One might speculate that the Crystal Mall in Waterford, the Stamford Downtown Mall to open in 1982, the projected mall in South Windsor, and even the mall proposed for the Danbury Fairgrounds may well affect Gladstone's assumptions.

TABLE I. POPULATION REVISED AND COMPARED

| TOWN           | 1977      |         | 1980      |         | 1990      |         | 2000      |         |
|----------------|-----------|---------|-----------|---------|-----------|---------|-----------|---------|
|                | GLADSTONE | REVISED | GLADSTONE | REVISED | GLADSTONE | REVISED | GLADSTONE | REVISED |
| North Haven    | 23,388    | 22,100  | 24,960    | 22,080  | 24,480    | 22,200  | 25,150    | 22,270  |
| New Haven      | 131,376   | 127,500 | 130,000   | 126,108 | 130,000   | 126,110 | 135,000   | 128,160 |
| Wallingford    | 36,349    | 36,850  | 38,000    | 37,278  | 40,500    | 39,770  | 42,500    | 41,770  |
| Hamden         | 50,283    | 50,500  | 50,700    | 51,071  | 51,300    | 51,670  | 51,600    | 51,950  |
| North Branford | 11,600    | 11,300  | 11,950    | 11,554  | 12,350    | 11,950  | 13,100    | 12,500  |
| East Haven     | 24,710    | 25,000  | 24,550    | 25,028  | 24,950    | 25,430  | 25,250    | 25,250  |
| Bethany        | 4,381     | 4,150   | 4,500     | 4,330   | 4,800     | 4,630   | 5,070     | 4,850   |
| Woodbridge     | 8,475     | 7,725   | 8,600     | 7,761   | 8,800     | 7,960   | 8,950     | 8,110   |
| Orange         | 14,686    | 13,350  | 14,200    | 13,237  | 14,000    | 13,040  | 15,000    | 13,150  |
| West Haven     | 53,912    | 53,100  | 53,850    | 53,188  | 54,800    | 54,130  | 56,000    | 55,250  |
| Branford       | 21,803    | 22,750  | 22,470    | 23,363  | 23,390    | 24,280  | 24,050    | 24,940  |
| Guilford       | 15,227    | 16,400  | 16,750    | 17,375  | 18,250    | 18,880  | 20,100    | 20,700  |
| Madison        | 12,915    | 13,250  | 14,150    | 14,030  | 15,600    | 15,650  | 17,150    | 17,100  |
| Clinton        | 11,062    | 10,850  | 11,420    | 11,195  | 12,260    | 12,020  | 12,960    | 12,740  |
| Sub Total      | 420,167   | 414,825 | 426,100   | 417,598 | 435,480   | 427,720 | 451,880   | 438,740 |
| Durham         | 5,130     | 4,900   | 5,430     | 5,143   | 6,110     | 5,420   | 6,500     | 5,850   |
| Middlefield    | 4,250     | 3,400   | 4,300     | 3,796   | 4,700     | 4,100   | 4,820     | 4,320   |
| Meriden        | 56,700    | 56,750  | 57,350    | 57,118  | 58,250    | 57,650  | 59,100    | 58,400  |
| Cheshire       | 21,862    | 20,950  | 23,000    | 21,788  | 26,000    | 23,400  | 28,000    | 24,790  |
| Sub Total      | 87,942    | 86,000  | 90,080    | 87,845  | 95,060    | 90,570  | 98,420    | 93,360  |
| Total Area     | 508,109   | 500,825 | 516,180   | 505,443 | 530,540   | 518,290 | 550,300   | 532,100 |

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TABLE II. 1977 PURCHASING POWER - GLADSTONE COMPARED TO REVISED POPULATION AND INCOME

| TOWN           | POPULATION | GLADSTONE |                  |         | POPULATION | REVISED |                  |         |
|----------------|------------|-----------|------------------|---------|------------|---------|------------------|---------|
|                |            | INCOME    | PURCHASING POWER | GAF     |            | INCOME  | PURCHASING POWER | GAF     |
| North Haven    | 23,388     | 6,833     | 159,810          | 21,574  | 22,100     | 6,737   | 148,888          | 20,100  |
| New Haven      | 131,376    | 5,249     | 689,593          | 93,095  | 127,500    | 5,032   | 641,580          | 86,613  |
| Wallingford    | 36,349     | 5,951     | 216,313          | 29,202  | 36,850     | 6,058   | 223,237          | 30,137  |
| Hamden         | 50,283     | 6,558     | 329,756          | 44,517  | 50,500     | 6,368   | 321,584          | 43,414  |
| North Branford | 11,600     | 5,671     | 65,784           | 8,880   | 11,300     | 5,727   | 64,715           | 8,737   |
| East Haven     | 24,710     | 5,252     | 129,777          | 17,520  | 25,000     | 5,151   | 128,775          | 17,385  |
| Bethany        | 4,381      | 7,740     | 33,909           | 4,578   | 4,150      | 7,638   | 31,698           | 4,279   |
| Woodbridge     | 8,475      | 11,200    | 94,920           | 12,814  | 7,725      | 11,284  | 87,169           | 11,768  |
| Orange         | 14,686     | 8,497     | 124,787          | 16,846  | 13,350     | 8,494   | 113,395          | 15,308  |
| West Haven     | 53,912     | 5,602     | 302,015          | 40,772  | 53,100     | 5,554   | 294,917          | 39,814  |
| Branford       | 21,803     | 6,998     | 152,577          | 20,598  | 22,750     | 6,907   | 157,134          | 21,213  |
| Guilford       | 15,227     | 7,039     | 107,183          | 14,470  | 16,400     | 7,070   | 115,948          | 15,653  |
| Madison        | 12,915     | 7,199     | 92,975           | 12,552  | 13,250     | 7,107   | 94,168           | 12,713  |
| Clinton        | 11,062     | 5,850     | 64,127           | 8,736   | 10,850     | 5,783   | 62,746           | 8,471   |
| Sub Total      |            |           |                  | 346,154 |            |         |                  | 335,605 |
| Durham         | 5,130      | 6,023     | 30,898           | 4,171   | 4,900      | 6,070   | 29,743           | 4,015   |
| Middlefield    | 4,250      | 6,058     | 25,747           | 3,476   | 3,400      | 6,193   | 21,056           | 2,843   |
| Meriden        | 56,700     | 5,631     | 319,278          | 43,102  | 56,750     | 5,596   | 317,573          | 42,872  |
| Cheshire       | 21,862     | 6,720     | 146,913          | 19,833  | 20,950     | 6,805   | 142,565          | 19,246  |
| Sub Total      |            |           |                  | 70,582  |            |         |                  | 68,976  |
| Total Area GAF |            |           |                  | 416,736 |            |         |                  | 404,581 |

TABLE III.

1990 GAF - 0% INCOME GROWTH

| TOWN           | POPULATION | GLADSTONE |                  |         | POPULATION | REVISED |                  |         |
|----------------|------------|-----------|------------------|---------|------------|---------|------------------|---------|
|                |            | INCOME    | PURCHASING POWER | GAF     |            | INCOME  | PURCHASING POWER | GAF     |
| North Haven    | 24,480     | 6,883     | 167,272          | 22,582  | 22,200     | 6,737   | 149,561          | 20,191  |
| New Haven      | 130,000    | 5,249     | 682,370          | 92,120  | 126,110    | 5,032   | 634,586          | 85,669  |
| Wallingford    | 40,500     | 5,951     | 241,016          | 32,537  | 39,770     | 6,058   | 240,927          | 32,525  |
| Hamden         | 51,300     | 6,558     | 336,425          | 45,417  | 51,670     | 6,368   | 329,035          | 44,420  |
| North Branford | 12,250     | 5,671     | 70,037           | 9,455   | 11,950     | 5,727   | 68,438           | 9,239   |
| East Haven     | 24,950     | 5,252     | 131,037          | 17,690  | 25,430     | 5,151   | 130,990          | 17,684  |
| Bethany        | 4,800      | 7,740     | 37,152           | 5,054   | 4,630      | 7,638   | 35,364           | 4,774   |
| Woodbridge     | 8,800      | 11,200    | 98,560           | 13,306  | 7,960      | 11,284  | 89,821           | 12,126  |
| Orange         | 14,600     | 8,497     | 124,056          | 16,754  | 13,040     | 8,494   | 110,762          | 14,953  |
| West Haven     | 54,800     | 5,602     | 306,990          | 41,444  | 54,130     | 5,554   | 300,638          | 40,586  |
| Branford       | 23,390     | 6,998     | 163,683          | 22,097  | 24,280     | 6,907   | 167,702          | 22,640  |
| Guilford       | 18,250     | 7,039     | 128,462          | 17,370  | 18,880     | 7,070   | 133,482          | 18,020  |
| Madison        | 15,600     | 7,199     | 112,304          | 15,211  | 15,650     | 7,107   | 111,225          | 15,015  |
| Clinton        | 12,260     | 5,850     | 71,721           | 9,599   | 12,020     | 5,783   | 69,512           | 9,384   |
| Sub Total      | 436,080    |           |                  | 360,636 |            |         |                  | 347,226 |
| Durham         | 6,110      | 6,023     | 36,801           | 5,541   | 5,420      | 6,070   | 32,899           | 4,441   |
| Middlefield    | 4,700      | 6,058     | 28,473           | 4,122   | 4,100      | 6,193   | 25,391           | 3,428   |
| Meriden        | 58,250     | 5,631     | 328,006          | 45,187  | 57,650     | 5,596   | 322,609          | 43,552  |
| Cheshire       | 26,000     | 6,720     | 174,720          | 26,285  | 23,400     | 6,805   | 159,237          | 21,497  |
| Sub Total      | 95,060     |           |                  | 81,135  |            |         |                  | 72,918  |
| TOTAL          | 531,140    |           |                  | 441,770 |            |         |                  | 420,144 |

TABLE IV.

## ADJUSTED POPULATION - 1980-1990 - POPULATION IN GROUP QUARTERS.

| TOWN           | 1980 CENSUS<br>FINAL COUNT | 1980<br>POPULATION IN<br>GROUP QUARTERS | ADJUSTED<br>POPULATION | 1990 ESTIMATE<br>OF POPULATION | 1990<br>ESTIMATED IN<br>GROUP QUARTERS | ADJUSTED<br>POPULATION |
|----------------|----------------------------|---|------------------------|--------------------------------|--|------------------------|
| North Haven    | 22,080                     | 73                                      | 22,007                 | 22,200                         | 150                                    | 22,050                 |
| New Haven      | 126,108                    | 10,069                                  | 121,215                | 126,110                        | 11,200                                 | 120,510                |
| Wallingford    | 37,278                     | 927                                     | 36,814                 | 39,770                         | 1,250                                  | 39,145                 |
| Hamden         | 51,071                     | 1,980                                   | 50,081                 | 51,670                         | 2,240                                  | 50,550                 |
| North Branford | 11,554                     | 0                                       | 11,554                 | 11,950                         | 50                                     | 11,900                 |
| East Haven     | 25,028                     | 165                                     | 24,863                 | 25,430                         | 195                                    | 25,235                 |
| Bethany        | 4,330                      | 0                                       | 4,330                  | 4,630                          | 0                                      | 4,630                  |
| Woodbridge     | 7,761                      | 0                                       | 7,761                  | 7,960                          | 0                                      | 7,960                  |
| Orange         | 13,237                     | 84                                      | 13,153                 | 13,010                         | 100                                    | 12,940                 |
| West Haven     | 53,188                     | 1,140                                   | 52,614                 | 54,130                         | 1,350                                  | 53,455                 |
| Branford       | 23,363                     | 55                                      | 23,308                 | 24,280                         | 165                                    | 24,125                 |
| Guilford       | 17,375                     | 146                                     | 17,229                 | 18,880                         | 175                                    | 18,705                 |
| Madison        | 14,030                     | 76                                      | 13,955                 | 15,650                         | 200                                    | 15,450                 |
| Clinton        | 11,195                     | 38                                      | 11,157                 | 12,020                         | 45                                     | 11,195                 |
| Sub Total      | 417,598                    | 14,753                                  | 410,041                | 427,720                        | 17,120                                 | 417,850                |
| Durham         | 5,143                      | 166                                     | 4,977                  | 5,420                          | 197                                    | 5,223                  |
| Middlefield    | 3,796                      | 0                                       | 3,796                  | 4,100                          | 0                                      | 4,100                  |
| Meriden        | 57,118                     | 883                                     | 56,677                 | 57,650                         | 1,046                                  | 57,127                 |
| Cheshire       | 21,778                     | 1,006                                   | 21,285                 | 23,400                         | 1,025                                  | 22,887                 |
| Sub Total      | 87,845                     | 2,055                                   | 86,735                 | 90,570                         | 2,268                                  | 89,337                 |
| TOTAL          | 505,443                    | 16,808                                  | 496,776                | 518,290                        | 19,388                                 | 507,187                |



TABLE V. GAF AT 12.5% - ADJUSTED POPULATION AND INCOME - 1990

| TOWN           | ADJUSTED<br>POPULATION | ADJUSTED<br>INCOME | PURCHASING<br>POWER | GAF     |
|----------------|------------------------|--------------------|---------------------|---------|
| North Haven    | 22,050                 | 7,411              | 163,413             | 20,427  |
| New Haven      | 120,510                | 4,782              | 576,279             | 72,035  |
| Wallingford    | 39,145                 | 6,361              | 249,001             | 31,125  |
| Hamden         | 50,550                 | 6,687              | 338,028             | 42,254  |
| North Branford | 11,900                 | 5,341              | 63,558              | 7,945   |
| East Haven     | 25,235                 | 4,944              | 124,762             | 15,595  |
| Bethany        | 4,630                  | 9,066              | 41,976              | 5,247   |
| Woodbridge     | 7,960                  | 16,926             | 134,731             | 16,841  |
| Orange         | 12,940                 | 11,042             | 142,893             | 17,862  |
| West Haven     | 53,455                 | 5,326              | 284,701             | 35,588  |
| Branford       | 24,125                 | 7,943              | 191,635             | 23,954  |
| Guilford       | 18,705                 | 8,484              | 158,693             | 19,837  |
| Madison        | 15,450                 | 9,531              | 147,254             | 18,407  |
| Clinton        | 11,195                 | 5,894              | 65,983              | 8,248   |
| Sub Total      | 417,850                |                    | 2,682,907           | 335,365 |
| Durham         | 5,223                  | 6,784              | 35,433              | 4,429   |
| Middlefield    | 4,100                  | 6,922              | 28,380              | 3,548   |
| Meriden        | 57,127                 | 5,316              | 303,687             | 37,961  |
| Cheshire       | 22,887                 | 8,066              | 184,607             | 23,076  |
| Sub Total      | 89,337                 |                    | 552,107             | 69,014  |
| TOTAL          | 507,187                |                    | 3,235,014           | 404,379 |

## CHAPTER 2

### RETAIL SALES IMPACT

#### 2.1 Introduction

In this chapter, we will quantify the magnitude of transfer sales, or sales taken away from the existing shopping centers, by the North Haven Mall in terms of both shoppers goods and other sales. This will be done in the framework of comparing the retail sales "With" and "Without" the Shopping Mall at the North Haven location.\*

A large amount of sales loss transferred to the North Haven Mall would demonstrate that the proposed Mall does not serve the public in terms of filling the "unmet" needs but merely duplicates social investments.

First, we will estimate the magnitude of total transfer sales; and then, allocate them to each town or major shopping facilities in the trade area using the modified gravity model.

#### 2.2 Base Year (1977) Retail Sales

Because the most current census data available for retail sales is the 1977 data, 1977 is adopted as the base year and all dollar amounts used in this report are expressed in 1977 constant dollars unless exceptions are so

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\* Comparison of  $F_3$  and  $F_4$  - See Section 1-6 of this report

## EXHIBIT 2-1

1977 (BASE YEAR) RETAIL SALES, PURCHASING POWER, AND  
NET INFLOW, NEW HAVEN RETAIL TRADE AREA, SMSA,  
CITY OF NEW HAVEN, AND NEW HAVEN CBD  
(In 1977 Dollars)

| AREA               | SALES                                  |                                      | PURCHASING<br>POWER<br>(3) | NET<br>INFLOW<br>(4) |
|--------------------|--|--------------------------------------|----------------------------|----------------------|
|                    | Unadjusted<br>(Excl. Sales Tax)<br>(1) | Adjusted<br>(Incl. Sales Tax)<br>(2) |                            |                      |
| <u>Trade Area</u>  |  |                                      |                            |                      |
| G A F              | 373,920                                | 400,942                              | 356,214                    | + 44,728             |
| G A F O            | 418,488                                | 447,782                              | 404,581                    | + 43,201             |
| Total Retail Sales | 1,550,089                              | 1,668,225                            | 1,635,967                  | + 32,258             |
| <u>SMSA</u>        |  |                                      |                            |                      |
| G A F              | 313,366                                | 335,605                              | 295,484                    | + 40,121             |
| G A F O            | 350,292                                | 374,812                              | 335,605                    | + 39,207             |
| Total Retail Sales | 1,305,022                              | 1,396,373                            | 1,357,055                  | + 39,318             |
| <u>New Haven</u>   |  |                                      |                            |                      |
| G A F              | 111,039                                | 118,812                              | 76,258                     | + 42,554             |
| G A F O            | 124,701                                | 133,430                              | 86,613                     | + 46,817             |
| Total Retail Sales | 357,172                                | 382,174                              | 350,229                    | + 31,945             |
| <u>CBD</u>         |  |                                      |                            |                      |
| G A F              | 70,755                                 | 75,708                               | -                          | -                    |
| G A F O            | 78,451                                 | 83,943                               | -                          | -                    |
| Total Retail Sales | 98,003                                 | 104,863                              | -                          | -                    |

## Sources and Notes:

1. 1977 U.S. Census of Retail Sales.
  2. Column (1) figures are increased by 7% to include Connecticut State Sales Tax in effect in 1977.
  3. Exhibit 1-8.
  4. (4)=(3)-(2)
- GAF: General Merchandise, Apparel, and Furnitures  
GAFO: GAF plus other misc. shoppers goods.

noted.\*

Exhibit 2-1 shows the Base year retail sales compared to the purchasing power of each area; trade area, SMSA, City of New Haven, and the New Haven CBD. Sales figures in the U.S. Census of Retail Trade are shown in amount excluding the sales tax, so that the data are adjusted to include the 7% state sales tax in effect that year. Both unadjusted and adjusted figures are shown.

Note that all areas show a net inflow of retail sales indicating the New Haven Retail Trade Area, SMSA, City of New Haven, and CBD are all net exporters of retail sales.

### 2.3 Retail Sales Trends

Exhibit 2-2 shows the retail sales trends, total as well as G.A.F., since 1958, expressed in 1977 constant dollars in the New Haven - West Haven SMSA.

Retail sales in the Central Business District (CBD) of New Haven experienced minimal growth over the 1972 to 1977 period. The 1.5 percent average annual increase in the Consumer Price Index during that time period implies a real decline in sales. The New Haven SMSA did far better during the 1972 through 1977 period, however, with an average annual increase of 6.2 percent.

The sales analysis reveals that: Downtown New Haven captured 22.6% of

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\*This will also facilitate comparisons with the Gladstone Report.

EXHIBIT 2-2  
New Haven CBD's Share of SMSA Shoppers Goods  
and GAF Sales, 1963, 1967, 1972, and 1977

(In thousands of current dollars)

|                              | 1963    | 1967    | 1972    | 1977 *  |
|------------------------------|---------|---------|---------|---------|
| <u>Shoppers Goods Sales:</u> |         |         |         |         |
| New Haven SMSA               | -       | 178,290 | 311,689 | 374,812 |
| Downtown New Haven           | -       | 72,216  | 76,388  | 83,943  |
| Downtown's share of SMSA     | -       | 40.5%   | 24.5%   | 22.4%   |
| <u>G A F Sales</u>           |         |         |         |         |
| SMSA                         | 112,194 | 168,496 | 263,820 | 335,302 |
| CBD                          | 46,562  | 66,103  | 70,538  | 75,708  |
| Percent of SMSA              | 41.5%   | 39.2%   | 26.7%   | 22.6%   |

SOURCE: U.S. Census of Retail Trade, 1967, 1972, 1977.

Note: The SMSA was redefined between 1967 and 1972 to include Wallingford, Clinton, Killingworth, and Madison. The sizable percentage drop in the GAF sales share for the CBD can be attributed to this.

\* 1977 figures adjusted to include sales tax ( in thousands of current dollars)

regional shoppers goods purchasing power in 1977 while the City as a whole captured nearly 30 percent or a major share of the regional market.

Shown in Exhibit 2-1, the City of New Haven and its CBD export more than \$47 million or 35% of the City's shoppers goods sales.

These data do not support the Gladstone Report's contention that "downtown's primary trade area has become increasingly constricted, focusing in large measure on the City itself with some extensions into close-in areas of nearby suburban towns." (Gladstone, p.20)

#### 2.4 The Public Need Test: Is There "Unmet" Demand?

Gladstone Report prepared for the developer of the proposed North Haven Shopping Mall asserts that "The public need served by the North Haven Mall is the provision of retail service facilities that have been substantially unavailable to metropolitan New Haven residents for many years." This statement cannot be supported by the facts evidenced by the following data.

First, as Exhibit 2-1 as well as Exhibit 2-4 clearly show, during the base year, there has been net inflow of sales to the trade area as well as to the SMSA indicating that the New Haven trade area has sufficient retail sales facilities which not only serve the shopping needs of its own residents but also part of the shopping needs of residents living outside the trade area. In fact, as high as 6.9% of shoppers goods sales of the trade area caters to the needs of the non-trade area residents on a net base (inflow minus outflow).

EXHIBIT 2-3

**RETAIL SALES WITHOUT ADJUSTMENT**  
(In Current Thousands of Dollars)

|                          | 1958    | 1963    | 1967    | 1972    | 1977      |
|--------------------------|---------|---------|---------|---------|-----------|
| <b>CBD</b>               |         |         |         |         |           |
| Total                    | 81,975  | 65,429  | 86,223  | 90,853  | 98,003    |
| G                        | 21,808  | 19,602  | 36,959  | D       | 40,018    |
| A                        | 21,764  | 17,182  | 17,415  | 21,448  | 21,780    |
| F                        | 10,413  | 9,778   | 11,729  | 9,948   | 8,957     |
| GAF                      | 53,985  | 46,562  | 66,103  | D       | 70,755    |
| <b>CITY OF NEW HAVEN</b> |         |         |         |         |           |
| Total                    | 240,463 | 226,029 | 281,107 | 313,694 | 345,532   |
| G                        | 23,606  | 22,536  | 41,038  | D       | 52,747    |
| A                        | 28,170  | 24,127  | 31,094  | 39,832  | 35,294    |
| F                        | 20,613  | 16,708  | 21,102  | 23,980  | 22,998    |
| GAF                      | 72,389  | 63,371  | 93,234  | D       | 111,039   |
| <b>SMSA</b>              |         |         |         |         |           |
| Total                    | 397,606 | 462,804 | 582,852 | 965,448 | 1,305,022 |
| G                        | 40,268  | 48,899  | 92,644  | 140,544 | 174,788   |
| A                        | 36,708  | 39,473  | 44,273  | 73,448  | 81,317    |
| F                        | 26,026  | 23,822  | 31,579  | 49,828  | 57,261    |
| GAF                      | 103,002 | 112,194 | 168,496 | 263,820 | 313,366   |

Note: SMSA definition changed between 1967 and 1972

D = Not disclosed

SOURCE: U.S. Census of Retail Trade

EXHIBIT 2-4

NEW HAVEN TRADE AREA SHOPPERS GOODS SALES  
INFLOWS & OUTFLOWS, 1977  
(In Thousands)

---

|   |               |
|---|---------------|
| (A) Total Trade Area Sales                    | \$447,782     |
| (B) Sales to area residents (Sales Retention) | 330,636       |
| (C) Inflow: (A-B)                             | 117,146       |
| (D) Trade Area Purchasing Power               | 404,581       |
| (E) Sales to Area Residents (Sales Retention) | 330,636       |
| (F) Outflow: (D-E)                            | <u>73,945</u> |
| (G) Net Inflow = Inflow - Outflow             | 43,201        |

OR

|                                 |                |
|---------------------------------|----------------|
| (A) Trade Area Sales            | \$447,782      |
| (D) Trade Area Purchasing Power | <u>404,581</u> |
| (G) Net Inflow                  | 43,201         |

---

## Sources:

(A) and (E) are from Exhibit 2-1.



Secondly, as it was fully introduced in Chapter One of this Report, the New Haven Trade Area, as well as continuous areas, will not grow in terms of population, per capita real income, or the aggregate expenditures on shoppers goods. It is estimated that the aggregate demand for shoppers goods will remain unchanged between 1977 (Base Year) sales and projected 1985-1990 sales at \$404 million level. This implies that there is no "new" demand which can be captured by the proposed North Haven Mall, and the significant portion of the anticipated sales volume (\$85 million for shoppers goods and \$116.8 million Total Mall Sales, Gladstone Report p. 172) is nothing but the sales taken away from the existing retail facilities throughout the region. The argument that the proposed North Haven Mall is to serve "unmet needs" of the general public simply does not hold true under the assumption of no-growth in shoppers goods demand.

And even if "unmet" retail demands will be developed in the future, the North Haven Mall has not been proven to be an optimum solution to meet such a demand. Other things being equal, it is more prudent to make full use of existing facilities to meet the new demand. This is especially so during a non-growth period. Society, both private and public sectors, have made enormous investments in various facilities and infrastructures such as the CBD in New Haven, Connecticut Post Center, Hamden Plaza, and the like. These facilities certainly would require periodic redevelopment to meet the future challenge to serve the regional shopping needs better. The proposed North Haven Mall, once built, will have, as we shall discuss further, the deleterious effect of making public investments deteriorate, and foil the potential for redevelopment.

In a time of increasing scarcity and decreasing economic choice, society has a vested interest in past investments. The evidence is that the New Haven Trade Area has "excess" facilities beyond what is required to satisfy the purchasing power of the trade area residents. There are simply no "unmet needs" or pent-up unfulfilled demand.

Exhibit 2-4 shows that there is no extensive "leakage" or outflow in net terms. In fact, there was \$43.2 million worth of net inflow of shoppers goods sales in 1977 Base Year. (See also Exhibit 2-1). In net terms (inflow minus outflow), the Gladstone Report (p.160 and 193) also shows that in 1977 figures as well as projections for SMSA shoppers goods sales flow without North Haven Mall indicated \$28.6 million net inflow (a figure which is substantially below our estimate) in 1977, \$7.7 million net inflow in 1990 under their scenario 1 (assumes Zero percent income growth and 13.5 percent of money income spent for shoppers goods); and a mere \$2.1 million net outflow in 1990 under the "best case" scenario (assumes 1% income growth compounded for 10 years, and 13.5 percent of money income spent for shoppers goods.)

The Gladstone Report data cited above demonstrates, even under the best circumstances, trying to support the contention of the North Haven developers, there is no public need unmet in terms of shoppers goods demand and there will be no unmet public need without North Haven Mall. The evidence is overwhelmingly that the trade area has more than adequate

retail facilities to serve the shopping needs of the entire regional population as well as exporting their sales to population resident outside the region on a net basis.

## 2.5 Total Transfer Sales: How Big Is It?

The amount of sales which will be taken away from the other shopping facilities by the North Haven Mall is defined as "Transfer Sales." From the point of view of other shopping facilities, they are "Transfer Out Sales", sales lost to the North Haven Mall. (From the North Haven Mall's point of view, it is "Transfer-in Sales" which are sales taken away from other competitors.)

Arithmetically, transfer sales are estimated as shown below:

Let,

$T_{90}$  = Dollar value of total shoppers goods expected to be sold in the trade area in 1990.

$T_{77}$  = 1977 Base year shoppers goods sales in the trade area.

$\Delta D$  = New shoppers goods demand (purchasing power) to be added during the 1977-90 period.

$\Delta M$  = Changes in new in- or out-flows. (Changes in inflows minus changes in outflows.)

$T$  = Total transfer sales expected in 1990 when the North Haven Mall will be fully in operation.

$S_m$  = Total shoppers goods sales anticipated by the North Haven Mall. Estimated to be \$85 million in 1977 constant dollars.

Then,

$$T_{90} = T_{77} + \Delta D + \Delta M$$

$$T_{90} = (T_{77} - T) + (\Delta D + \Delta M + T)$$

Let,  $S_m = \Delta D + \Delta M + T$ . Assuming that entire  $\Delta D + \Delta M$  will be absorbed by the proposed mall, the smaller the  $\Delta D$  and  $\Delta M$ , the larger would be the size of  $T$ , and vice versa. This leads to:  $T_{90} = (T_{77} + S_m) - T$ .

Assume  $\Delta D=0$  in accordance with the no-growth projections made in chapter 1 of this report. That is, we assume that there will be virtually no growth of shoppers goods purchasing power in real term.

We can determine the size of transfer sales by allocating the Mall sales \$85 million, to all 18 towns in the trade area, and to major shopping facilities (e.g., CBD of New Haven, Magic Miles in Hamden, Meriden Square in Meriden, White Acres in Orange), and the retail facilities outside the trade area (e.g., Connecticut Post Shopping Center, Milford.) Such an allocation then defines the magnitude of negative retail sales impact on the existing retail facilities throughout the area.

As early as in 1931, W.J. Reilly, noted market analysis consultant of the day, introduced what is known today as Reilly's Law or the Gravity Model. In his publication entitled The Law of Retail Gravitation, he separated the market areas of two cities competing for customers in a hinterland. (W.J. Reilly, The Laws of Retail Gravitation, New York: W.J. Reilly Co., 1931.)

Adopting the Gravity Model principle, the following equation is used to estimate transfer sales for each town.

$$t_j = (S_m - \Delta D) \frac{S_j}{d_{ij}^k} / \sum_{j=1}^n \frac{S_j}{d_{ij}^k} \quad (i=\text{North Haven})$$

$$T = \sum_{j=1}^m t_j$$

where

$t_j$  = Transfer sales allocated to town or retail facilities  $j$ . Towns or facilities located within the trade Area has ( $j = 1, 2, 3, \dots, m$ ), and the towns and facilities outside the trade Area has ( $j = m + 1, m + 2, \dots, n$ .)

$s_j$  = Size of retail or shoppers goods retail activity in Zone  $j$ .

$d_{ij}$  = Distance (in driving time) between Zone  $i$  and Zone  $j$ . Where  $i$  = North Haven.

$k$  = An exponent applied to the distance variable.

The above model states that retail center in Zone  $j$  loses retail sales:

- in direct proportion to  $S_j$ , and
- in inverse proportion to distance to the North Haven ( $d_{ij}^k$ ).

Since we assume  $\Delta D = 0$ ,  $(S_m - \Delta D) = S_m$ .

### Data Requirements

The following methods are used to operationally define various variables in the gravity model.

- (1)  $S_j$ : Relative size of total shoppers goods retail activity at Zone  $j$  or town  $j$  for the future date in 1990 is assumed to be the same as 1977 retail sales.

(2)  $d_{ij}$ : average driving time between centroid of towns are obtained from the Connecticut State Department of Transportation study.

(3)  $k$  : exponent applied to distance factor (d).  $1/d_{ij}^k$  is called driving time factor, and they are empirically determined. Larger  $k$  value signifies that the distance presents greater friction for shopping travel. Conversely, smaller  $k$  value represents that the distance is relatively not frictional. Compared to convenience good shopping, shoppers goods shopping would have lower  $k$  value. In general,  $k$  value is found to be approximately 2.

The result of the allocation is shown on Exhibit 2-5 and 2-6.

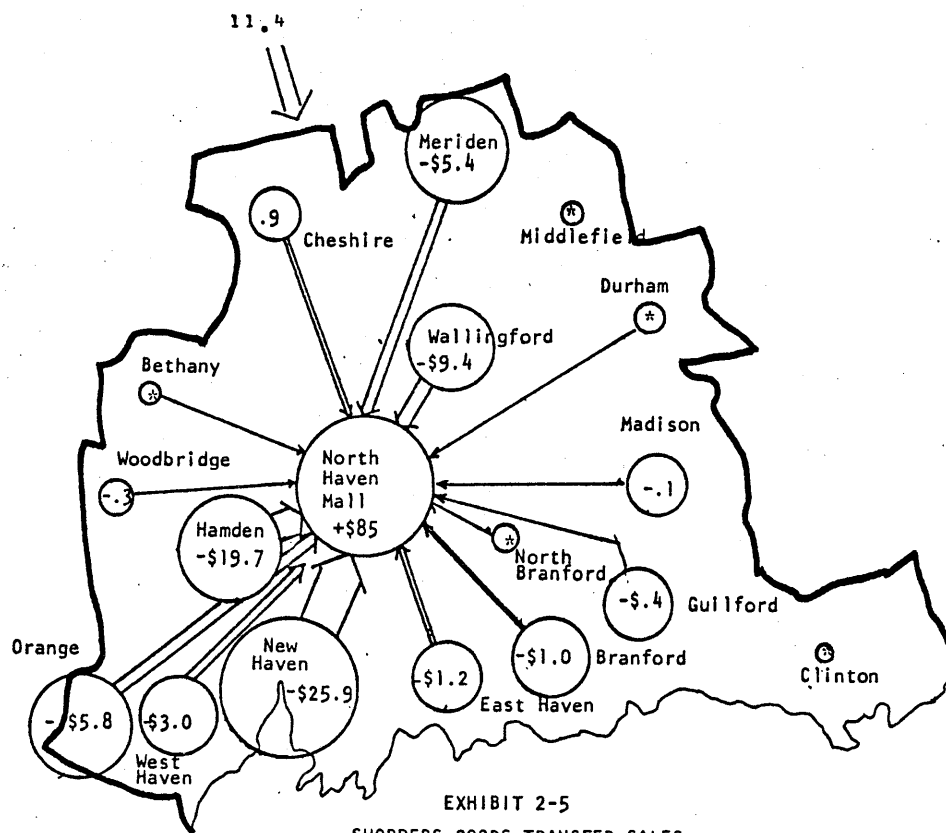


EXHIBIT 2-5  
SHOPPERS GOODS TRANSFER SALES  
UNDER ZERO-GROWTH SCENARIO

## EXHIBIT 2-6

Shoppers Goods Transfer Sales (Sales To Be Taken  
Away From the Existing Retail Facilities) Due To  
North Haven Mall, As of 1985  
(In Millions of 1977 Dollars)

| Towns and<br>Shopping Centers | (1)<br>% of Total<br>Transfer Sales | (2)<br>GAFO Sales<br>Loss | (3)<br>Total GAFO<br>Sales | (4)<br>(2)/(3)<br>% |
|-------------------------------|-------------------------------------|---------------------------|----------------------------|---------------------|
| 1. New Haven                  |                                     |                           |                            |                     |
| CBD                           | -18.03%                             | \$15.3                    | \$83.9                     | 18.2%               |
| Balance                       | -12.49%                             | \$10.6                    | \$49.5                     | 21.4%               |
| Total                         |                                     | \$25.9                    | \$133.4                    | 19.4%               |
| 2. Hamden                     |                                     |                           |                            |                     |
| Magic Mile                    | 20.04%                              | \$17.0                    | \$55.2                     | 30.8%               |
| Balance                       | 3.27%                               | \$2.8                     | \$9.0                      | 31.1%               |
| Total                         | 23.31%                              | \$19.7                    | \$64.2                     | 30.7%               |
| 3. North Haven                | --                                  |                           |                            |                     |
| 4. Wallingford                | 11.07%                              | \$9.4                     | \$30.5                     | 30.8%               |
| 5. North Branford             | .07%                                | *                         | -                          | *                   |
| 6. East Haven                 | 1.38%                               | \$1.2                     | \$9.9                      | 12.1%               |
| 7. Bethany                    | -.04%                               | *                         | -                          | *                   |
| 8. Woodbridge                 | .40%                                | \$ .3                     | \$5.2                      | 5.8%                |
| 9. Orange                     | 6.82%                               | \$5.8                     | \$61.2                     | 9.5%                |
| 10. West Haven                | 3.48%                               | \$3.0                     | \$16.3                     | 18.4%               |
| 11. Branford                  | 1.16%                               | \$1.0                     | \$19.9                     | 5.0%                |
| 12. Gullford                  | .47%                                | \$ .4                     | \$10.9                     | 3.7%                |
| 13. Madison                   | .15%                                | \$ .1                     | \$4.1                      | 2.4%                |
| 14. Clinton                   | .07%                                | *                         | \$2.3                      | *                   |
| 15. Durham                    | .04%                                | *                         | \$ .7                      | *                   |
| 16. Middlefield               | .04%                                | *                         | *                          | *                   |
| 17. Meriden                   | 6.90%                               | \$5.9                     | \$61.5                     | 9.6%                |
| 18. Cheshire                  | 1.05%                               | \$ .9                     | \$11.4                     | 7.9%                |
| Total Transfers               | 86.57%                              | \$73.6                    |                            |                     |
| Changes in Net Inflow         | 13.43%                              | \$11.4                    |                            |                     |

\* Less than \$.1 million

Source: (1) = From Exhibit 2-5.  
(2) = 85 X Col. (1)  
(3) = Gladstone Report.  
(4) = (2)/(3) X 100

From Exhibit 1-6, we observe the following:

(A) Out of \$85 million Mall shoppers goods sales, only 13.4% is the net result of recaptured outflow and/or improved inflows. In other words, the relative size of the North Haven Mall will lure away only \$11.4 million worth of shoppers goods sales from the shopping facilities outside the defined Trade Area. The amount of sales loss by non-metro towns (Durham, Middlefield, Meriden, and Cheshire) is \$6.8 million. But it constitutes 9.6% of Meriden Town's total shoppers goods sales, and 7.9% of Cheshire.

(B) Hamden:

86.6 percent of total transfer sales or \$73.6 million are sales taken away from 18 towns of the Trade Area. Of these, Magic Mile in Hamden will have the largest impact. As high as \$17 million or 30.8% of Magic Mile sales may be diverted to the North Haven Mall. (Sears & Roebuck will be lost.) Town of Hamden as a whole will lose 19.7 million sales which constitutes 30.7% of total shoppers good sales in 1977.\*

(c) New Haven:

As a whole, New Haven will stand to lose 19.4% of its total shoppers goods sale enjoyed in 1977 and assumed to be the base-line (potential) sales in 1990. The downtown will lose 18.2% of its shoppers goods sales while the rest of the city will lose 21.4% of its sales. Altogether, \$25.9 million sales will be transfered to the North Haven Mall. This estimate, however, does not take into consideration of "dynamic" readjustment of the market. For example, New Haven CBD will lose considerably more, if Hamden's Plaza and Magic Mile will redevelop itself and successfully make up the loss to North Haven Mall by taking away more sales from CBD, New Haven.

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\*This assumes that Magic Mile would not engage in sizable redevelopment of its shopping facilities.



(d) Other towns which are significantly impacted are the towns of: Orange, Wallingford, Meriden, and Cheshire.

## 2.7 North Haven Mall's Impact on Other Retail Sales

With four major department stores, the North Haven Mall is likely to have major impacts on the Shoppers Goods sales as we reviewed in the previous section, but the Mall will also have negative impacts on the other retail sales in downtown New Haven and other shopping facilities throughout the trade area.

The magnitude of such additional retail sales losses by the existing retail stores will be attempted here as an example, for New Haven. The relationship between shoppers goods sales and other retail sales in downtown New Haven can be expressed by other retail sales ratios and Shoppers Goods sales. In the CBD, the ratio is found to be .213 indicating that for every one dollar worth of shoppers goods, \$.213 retail sales are sold.\*

### OTHER RETAIL SALES/SHOPPERS GOODS SALE RATIOS

|                        |       |
|------------------------|-------|
| CBD.....               | .213  |
| North Haven Mall.....  | .350  |
| City of New Haven..... | 1.771 |
| SMSA/Trade Area.....   | 2.726 |

These ratios show that CBD as well as the planned North Haven Mall are primarily for Shoppers Goods, but also cater to the auxilliary shopping needs and conveniences of the shoppers.

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\*This is based on the data supplied by the Office of Downtown and Harbor Development which conducted a thorough survey of the CBD retail facilities in 1982.

EXHIBIT 2-7SUMMARY OF RETAIL SALES IMPACT  
ON NEW HAVEN

(In Millions of 1977 Dollars)

|                                | CBD       | Balance of<br>City | City<br>Total |
|--------------------------------|-----------|--------------------|---------------|
| (1) Shoppers Goods Sales Loss  | - \$ 15.3 | - \$10.6           | -\$25.9       |
| (2) % of Total GAFO Sales      | (18.2%)   | (21.4%)            | (19.1%)       |
| (3) Other Retail Sales Loss    | - \$ 3.3  | - \$ 2.2           | -\$ 5.5       |
| (4) Total Retail Sales Loss    | - \$ 18.6 | - 12.8             | - 31.4        |
| (5) % of Total Retail Sales    | (19.7%)   | ( 4.8%)            | ( 8.2%)       |
| (6) Total Shoppers Goods Sales | 83.9      | 49.5               | 133.4         |
| (7) Total Retail Sales         | 104.9     | 264.8              | 382.2         |

Sources: Exhibit 2-6.

(1) : Exhibit 2-6.

(2) = (1) / (6)

(3) : Row (1) x .213 where .213 represents the Other Retail Sales/  
Shoppers Goods Sales ratio in New Haven CBD.

(4) = (1) + (2)

(5) = (3) / (7)

(6) : Exhibit 2-1, Column (2).

(7) : Exhibit 2-1, Column (2).

EXHIBIT 2-8

PERCENT OF TOTAL RETAIL SALES LOST DUE TO NORTH HAVEN MALL BY TOWN:  
GREATER NEW HAVEN RETAIL TRADE AREA

Including Shoppers Goods as well as other Retail Sales.

|                  | (1)<br>Shoppers Goods<br>Sales Loss<br>or<br>Gain | (2)<br>Total Retail<br>Sales Loss<br>or<br>Gain | (3)<br>1977 Total<br>Retail Sales<br>(Adjusted) | (4)<br>Retail Loss/Gain<br>As Percent<br>Of Total<br>Retail Sales |
|------------------|---|---|---|---|
| North Haven      | +85.0   | \$114.75  | 78,762  | 145.69%   |
| New Haven        | - 25.4  | - 31.42   | 382,174   | - 8.22%   |
| Wallingford      | - 9.4   | - 11.40   | 157,105   | - 7.26%   |
| Hamden           | - 19.7  | - 23.90   | 221,661   | -10.78%   |
| North Branford   | *   | *   | 16,192  | *   |
| East Haven       | - 1.2   | - 1.46  | 76,040  | - 1.92%   |
| Bethany          | *   | *   | *   | *   |
| Woodbridge       | - .3  | - .36   | *   | *   |
| Orange           | - 5.18  | - 7.04  | 117,895   | - 5.97%   |
| West Haven       | - 3.0   | - 3.64  | 120,737   | - 3.01%   |
| Branford         | - 1.0   | - 1.21  | 102,439   | - 1.18%   |
| Gulford          | - .4  | - .49   | 55,264  | - .89%  |
| Madison          | - .1  | - .12   | 37,906  | - .32%  |
| Clinton          | *   | *   | *   | *   |
| Durham           | *   | *   | *   | *   |
| Middlefield      | *   | *   | *   | *   |
| Meriden          | -5.9  | -7.16   | 187,437   | - 3.82%   |
| Cheshire         | - .9  | - 1.09  | 66,048  | - 1.65%   |
| TRADE AREA TOTAL | -73.6   | 89.28   | 1,540,898                                       | 5.79  |

Notes and Sources: (1) Exhibit 2-6; (2) = 1.213 X Column (1);  
(3) Adjusted to include 7% sales tax. Unadjusted data are from  
1977 U.S. Census of Retail Trade; (4) = (2)/(3) x 100.

It is reasonable, therefore, to assume that New Haven CBD will lose additional retail sales, 21.3% of the Shoppers Goods sales (.213 x \$15.3 million) or 3.26 million. In sum, CBD will lose more than \$18.6 million in retail sales. In addition, the balance of the City will lose by  $(10.6 \times 1.213 = 12.8)$  \$12.8 million or total of \$31.4 million. This represents 8.2 percent of the total retail sales of the City including both shoppers goods and others. (See Exhibit 2-7).

#### 2.8 Summary: Impact of the North Haven Mall on Retail Sales

The application of a modified gravity model presented the following conclusions as to the magnitude of transfer sales (sales taken away from other existing retail spaces by the North Haven Mall ) as shown below.

The total size of transfer sales volume is estimated to be \$73.6 million. Of these, \$15.3 million are the transfer from downtown New Haven; \$10.6 million are transfers from the rest of the City of New Haven; \$47.7 million from the balance of the towns in the metro areas of the Trade Area; and the remaining 11.4 million from the outside of the Trade Area or changes in the net inflows.

The transfer sales from CBD of New Haven (\$15.3 million) constitute 18.2 percent of the total shoppers goods sales volume of the downtown as of Base Year 1977. However, the downtown of New Haven will lose not only shoppers goods sales but also other retail sales in the magnitude of \$3.3 million. If we were to compare the transfer sales with the New Haven CBD future potential instead of the existing sales, the magnitude of the loss will be much more pronounced and estimated to be \$37.4 million level consisting of \$18.6 million loss plus \$18.8 million of potential sales which could be realized if the CBD would be redeveloped under the Rouse Plan V. Indeed, the City of New Haven

has a great deal to lose and as we shall see in the next section, its future economic viability and the region's economic future is at stake.

The rest of the metro towns in the Trade Area will be impacted in varying degrees in their sales but, except Magic Mile and some other big centers, the transfer sales will be relatively small.

The transfer sales from four non-metro towns of the trade area will be \$6.8 million but constitute 9.3 percent of the total retail sales in these non-metro towns today. It will therefore considerably disrupt the shopping patterns of these towns which are reasonably well served by the existing centers such as Meriden Square located in Meriden.

The net effect of all these factors is the demise of the downtown New Haven as the regional core and reducing it to a local shopping center catering to the needs of the limited geographical areas immediately surrounding the downtown New Haven. It is indeed the North Haven Mall which will make downtown's primary trade area "increasingly constricted."

## CHAPTER 3

### FISCAL IMPACT

#### 3.1 Introduction

Within that economic unit known as the New Haven Region the effect of the introduction of the North Haven Mall on the fiscal well being of its constituent towns can be estimated. The impact of the North Haven Mall on the finances of the individual towns in the region and ultimately on their tax base will be shown.

A significant loss of shoppers goods and other retail sales from downtown New Haven and from the rest of the City of New Haven will exacerbate the already weakened economic base, especially commercial property value, of the City of New Haven. The proposed North Haven Mall, once built, will take away the current business volumes the downtown enjoys but also more significantly will take away the opportunity to revitalize the New Haven downtown as the regional center.

The weakening of downtown New Haven due to the North Haven Mall development will have a wider-ranging impact on the overall fiscal ecology of the regional community affecting the property values in commercial as well as residential sectors, resulting in

high taxes and reduced municipal services, ultimately contributing to the physical deterioration of the entire city. The depressed economic structure of the city and the transformation of the City from a regional center into one of the local centers would have a permanent scar on economic development and growth opportunities affecting the entire regional community.

To the extent that the planned North Haven Mall would add to the grand list of North Haven and may have the potential for reducing the tax rates of the town, at least for the short run, it would have serious implications for highly regressive income redistribution effects by transferring income from the low to high income groups in society. Such an income redistribution effect violates the equity criterion because it does not even contribute toward the economic growth of the entire regional community. This section is intended to demonstrate that the proposed Mall cannot meet both the efficiency criterion and the equity criterion cited in Chapter 1.

This chapter includes the following:

- Examination of New Haven's current (1981) total and commercial property tax base.
- Examination of New Haven's past trends and current expenditures for municipal services.
- Quantification of the magnitude of direct impact of lost retail sales due to North Haven Mall on downtown New Haven as well as for the entire City. Measure the impact in terms of depressed market and assessed valuation of the real & personal properties; tax revenues; and property tax rate. Comparison will be made for both (1) current tax base as of 1979; and (2) future potential as of 1990 with and without North Haven Mall.
- Describes the full impact, including indirect long-run effects, of deteriorating tax base on the City as a whole and the regional community.

EXHIBIT 3-1

ABSTRACT OF ASSESSMENT OF PROPERTY - CITY OF NEW HAVEN  
1977 - 1980  
(In Current Dollars)

|                               | 1977             | 1978                | 1979               | 1980               |
|-------------------------------|------------------|---------------------|--------------------|--------------------|
| Grand List                    | 665.9<br>(100.0) | 1,170.4*<br>(100.0) | 1,178.2<br>(100.0) | 1,168.6<br>(100.0) |
| <u>A. Total Real Property</u> |                  |                     |                    |                    |
| Residential                   | -                | 423.3<br>(36.9)     | 432.4<br>(36.7)    | 436.0<br>(37.3)    |
| Commercial                    | -                | 317.6<br>(27.1)     | 318.0<br>(27.0)    | 316.5<br>(27.0)    |
| Industrial                    | -                | 72.8<br>( 6.2)      | 70.2<br>( 6.0)     | 71.6<br>( 6.1)     |
| Public Utilities              | -                | 49.1<br>( 4.2)      | 51.4<br>( 4.4)     | 50.7<br>( 4.3)     |
| Vacant Land                   | -                | 13.7<br>( 1.2)      | 13.4<br>( 1.1)     | 13.2<br>( 1.1)     |
| TOTAL                         | 505.5<br>(75.9)  | 885.4<br>(75.6)     | 885.4<br>(75.1)    | 888.1<br>(76.0)    |
| <u>B. Personal Property</u>   | 104.1<br>(15.6)  | 215.4<br>(18.4)     | 224.1<br>(19.0)    | 214.5<br>(18.4)    |
| <u>C. Motor Vehicles</u>      | 56.3<br>( 8.5)   | 69.5<br>( 5.9)      | 68.7<br>( 5.8)     | 66.1<br>( 5.7)     |

SOURCE: City of New Haven Tax Assessor's Office

\* There is a jump between 1977 and 1978 due to revaluation taken in 1978.



EXHIBIT 3-2  
EQUALIZED VALUE OF NET ASSESSMENT  
BY PROPERTY CLASS  
CITY OF NEW HAVEN  
1979

|                              | (1)<br>Gross Assessment | (2)<br>Net Assessment | (3)<br>EQL<br>Ratio | Equalized Value<br>of Net Assessment |          |
|------------------------------|-------------------------|-----------------------|---------------------|--------------------------------------|----------|
| A. <u>Gross Grand List</u>   | 1,178,234,157           |                       |                     |                                      |          |
| Less Veteran & Blind Exempt. | 7,737,874               |                       |                     |                                      |          |
| B. <u>Net Grand List</u>     | 1,170,496,283           | 1,170,005,209         | 55.4%               | 2,112,153,767                        | (100%)   |
| C. <u>Real Property</u>      |                         |                       |                     |                                      |          |
| Residential                  | 432,367,443             | 427,234,552           | 51.4%               | 831,195,626                          | (39.35%) |
| Commercial                   | 318,035,795             | 318,238,152           | 53.3%               | 597,069,695                          | (28.27%) |
| Industrial                   | 70,193,326              | 70,237,965            | 53.3%               | 131,778,541 <sup>a</sup>             | (6.24%)  |
| Public Utilities             | 51,413,773              | 51,446,449            | 53.3%               | 96,552,413 <sup>a</sup>              | (4.57%)  |
| Vacant Land                  | 13,390,110              | 12,621,041            | 30.8%               | 40,977,406                           | (1.94%)  |
| TOTAL                        | 885,400,447             | 879,778,149           |                     | 1,697,543,681                        | (80.37%) |
| D. <u>Personal Property</u>  | 224,133,840             | 222,138,755           | 70.0%               | 317,341,120                          | (15.02%) |
| E. <u>Motor Vehicles</u>     | 68,699,870              | 68,088,305            |                     | 97,268,966                           | (4.61)   |

SOURCE: (1) City of New Haven Tax Assessors Office, (2), (3) and (4) state of Connecticut OPM, 1979 Equalized Net Grand Lists

- Quantification of the net benefits to the Town of North Haven in terms of enhanced tax base, tax revenues and potential reduction in tax rate.
- Tests the efficiency criterion by calculating the net benefits or the losses to the regional community,
- Tests the equity criterion comparing the income redistribution effects of the proposed Mall in terms of comparing the loss of income and higher taxes to be paid by the City of New Haven residents and increased income and tax rates by the North Haven residents.

### 3.2 Current Tax Base of New Haven

The Tax base is a reflection of the economic base. If we use "property" (real and personal) as representing the tax base, then the tax base changes as the economic base changes. The rate of property value will reflect the rate of growth of the income earning power of the firms and individuals in the City. To the extent that earning power (sales) of the downtown New Haven will be significantly reduced by the presence of North Haven will more than proportionately depress (through feedback or vicious circle process) the property values or tax ratables.

The proposed North Haven Mall is expected to reduce the economic base of the City of New Haven by reducing the Shoppers Goods sales by 19.4% in the City and by 19.1% in the CBD. (See Exhibit 2-6).

For greater detail, the current tax base of the City of New Haven is presented. This, it is hoped, will prove that a detailed study of information on the public record confirms the above noted points regarding tax base questions.

In New Haven, revaluation was undertaken in 1978 in accordance with State requirements to do so every 10 years. The equalized net gross grand-list in 1978 was \$1,895.9 million.\* As shown in Exhibit 3-1, there has not been any major changes in the grand-list since revaluation in 1978.

Of the entire grand list, (See Exhibit 3-2), 80.4 percent was from the Real Property and 19.6 percent from the Personal Property including motor vehicles. In terms of types of real property, Residential constituted 39.4 percent of the total grand-list, followed by Commercial (28.3%), Industrial (6.2%), Public Utilities (4.6%), and Vacant Land (1.9%).

EXHIBIT 3-3

PROPERTY TAX DATA, NEW HAVEN  
1978 and 1979

|                                       | 1978                       | 1979                     |
|---------------------------------------|----------------------------|--------------------------|
| NET GRAND LIST                        | 1,152,878,532 <sup>a</sup> | 843,000,044 <sup>a</sup> |
| MIL RATE                              | 65.9                       | 74.6                     |
| GRAND LEVY                            | 75,974,695                 | 62,887,803               |
| ESTIMATED PERCENT OF TAX COLLECTED    | 93.0                       | 93.7                     |
| ASSESSMENT RATIO                      | 70                         | 70                       |
| EQUALIZED NET GRAND LIST <sup>b</sup> | 1,703,197,000              | 1,895,921,000            |
| EQUALIZED MIL RATE                    | 31.6                       | 29.3                     |
| INDEBTEDNESS                          | 80,170,000                 | 35,647,759               |

a New Haven is phasing-in its revaluation over a five-year period pursuant to Sec. 12-62a(e), CGS.

b The equalized grand list data are from the sales/assessment ratio study prepared by the State Department of Revenue Services, June, 1980, and represent estimated full market value.

\*We use 1978 as the base year for this fiscal impact study. 1978 data are more accurate than 1977 data because of 1978 revaluation. This point is important because using data from 1977 sets up false comparisons at a later point when U.S. Census of Trade data is used. While it would appear that data from the 1977 Census and data from the 1977 Grand List would be comparable, it is crucial to remember that a Grand List is the basis for tax revenue locally and is changed every 10 years. To casually use a grand list that is reflective of values 10 years in the past is to miscalculate the actual value of property in the City of New Haven and elsewhere.

Commercial properties' market valuation is estimated at \$597.1 million throughout the City. Downtown properties accounted for \$156.4 million constituting 26.2% of total commercial valuation in the City.\*

One way of looking at these data is that the City's commercial properties pay 28.3% of taxes (grand-levy) each year and constitute an important revenue to the City.

### 3.3 New Haven's Revenue Sources

The major revenue source of the City of New Haven is from the property tax, which raised 53.55% of total revenues in 1980. Another source, State and Federal Aids/Revenue Sharing, has declined considerably, and is most likely to decline more severely according to Federal Policy. (See Exhibit 3-4)

As the revenues from other sources dwindled in recent years, the burden on the current taxes to support services increased, and so the share of tax contributions by the commercial properties in 1978 has jumped. Commercial properties raised 13.1% of total revenue of the City in 1978, but this percentage increased to 14.5% by 1980.

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\* This is as of March, 1982. Total assessment for CBD properties is \$232.9 million but \$76.5 million worth are "exempt."

EXHIBIT 3-4REVENUE SOURCES, NEW HAVEN  
1978 - 1980

| REVENUE SOURCE         | 1978-1979   | 1979-1980   | 1980-1981   |
|------------------------|-------------|-------------|-------------|
| Surplus/ (Deficit)     | 2,908,000   | 3,010,000   | -           |
| Current Taxes          | 49,497,509  | 51,659,920  | 62,936,891  |
| Prior Taxes & Interest | 2,461,900   | 2,865,400   | 2,849,000   |
| Licenses, Fines, etc.  | 613,080     | 884,580     | 794,151     |
| State Aid              | 34,069,493  | 31,438,688  | 36,081,186  |
| Federal Aid            | 2,400,000   | 1,422,400   | -           |
| Revenue Sharing        | 2,512,704   | 3,625,000   | 3,335,000   |
| Revenue Other Agencies | 894,609     | 868,250     | 3,838,162   |
| Service Charges        | 1,029,457   | 3,706,597   | 2,712,201   |
| Other Revenues         | 6,058,489   | 8,706,529   | 4,977,295   |
| TOTAL REVENUES         | 102,445,241 | 108,187,364 | 117,523,886 |

| REVENUE SOURCES                    | 1978-1979 | 1979-1980 | 1980-1981 |
|------------------------------------|-----------|-----------|-----------|
| <u>CURRENT TAXES</u>               | 48.31%    | 47.75%    | 53.55%    |
| (Commercial properties)            | (13.09%)  | (12.90%)  | (14.46%)  |
| <u>STATE AID</u>                   | 33.26%    | 29.06%    | 30.70%    |
| <u>FEDERAL AID/REVENUE SHARING</u> | 4.80%     | 4.66%     | 2.84%     |
| <u>OTHERS</u>                      | 13.63%    | 18.53%    | 12.91%    |
| TOTAL                              | 100.00%   | 100.00%   | 100.00%   |

SOURCE: CONNECTICUT PUBLIC EXPENDITURES COUNCIL.

### 3.4 Total Expenditures

Total expenditure of the City of New Haven in 1980 was \$117,523,886, or \$934.31 per capita. Among the expenditure items, "schools" demanded the largest amount and occupied 31.92% in 1980, but this represented a slight decline over two years ago. (See Exhibit 3-5)

As the revenues seemed to decline, there has been some rearrangement of expenditures. The increases were among the "general government" costs such as debt services, fringe benefits, but all service areas experienced decline except social services.

### 3.5 The Tax Rate

Given the demand for services and the supply of resources to finance those services, the tax rate is a "price" of services expressed in mil rate. The ratio between the levy and the full market value is the effective or equalized tax rate (ETR) measured in terms of dollars of tax paid per \$1000 worth of full market value of the property. To the extent that the tax base of resources declines it will also cause increases in the municipal services (more police surveillance, vandalism protection, general sanitary conditions associated with the physical deteriorations of properties, etc.) leading to a galloping increment of the tax rate. Raising the same amount of tax revenues, or even a lesser amount of tax revenues will lead to deterioration of municipal services.

The equalized grand list data are from the sales/assessment ratio study prepared by the State Department of Revenue Services, June, 1980,

EXHIBIT 3-5

BUDGETED EXPENDITURES, NEW HAVEN  
1978 - 1980  
(In current dollars)

|                        | 1978-1979               | 1979-1980               | 1980-1981               |
|------------------------|-------------------------|-------------------------|-------------------------|
| General Government     | \$ 5,267,994 (5.14%)    | 5,850,589 (8.18%)       | 5,505,169 (4.94%)       |
| Police                 | 8,502,956 (8.30%)       | 8,881,648 (8.21%)       | 9,902,455 (8.88%)       |
| Fire                   | 8,707,824 (8.50%)       | 8,910,646 (8.24%)       | 8,277,345 (7.42%)       |
| Inspections            | 319,437 ( .31 )         | 335,395 ( .31 )         | 420,673 ( .38 )         |
| Public Works           | 9,629,238 (9.40 )       | 8,338,195 (7.71 )       | 8,105,269 (7.27))       |
| Health                 | 1,559,400 (1.52 )       | 1,541,326 (1.43 )       | 584,408 ( .52 )         |
| Social Services        | 5,797,471 (5.66 )       | 7,463,366 (6.90 )       | 9,173,090 (8.23 )       |
| Libraries              | 1,034,822 (1.01 )       | 1,202,312 (1.11 )       | 1,246,878 (1.12 )       |
| Schools                | 37,222,297 (36.33)      | 34,646,707 (32.02)      | 37,517,570 (33.64)      |
| Parks & Recreation     | 1,723,779 (1.68 )       | 1,897,184 (1.75 )       | 1,957,856 (3.84 )       |
| Debt-Schools           | 4,319,531 (4.22 )       | 4,319,531 (3.99 )       | 4,286,039 (3.84 )       |
| Debt-General Gov't     | 6,624,826 (6.47 )       | 10,714,831 (9.90 )      | 11,440,204 (10.26)      |
| Fringe Ben-Schools     | 2,279,630 (2.23 )       | 1,904,459 (1.76 )       | 2,132,390 (1.91 )       |
| Fringe Ben-Gen. Gov't. | 7,816,028 (7.63 )       | 10,169,463 (9.40 )      | 13,626,642 (10.26)      |
| Capital & Nonrecurring | 804,409 ( .79 )         | -                       | -                       |
| Miscellaneous          | 835,599 ( .82 )         | 1,991,712 (1.84 )       | 4,347,898 (3.90 )       |
| TOTAL EXPENDITURES     | 102,445,241<br>(100.00) | 108,187,364<br>(100.00) | 111,523,886<br>(100.00) |

Source: Connecticut Public Expenditures Council.

and represent estimated full market value.

The equalized tax rates were prepared by the Connecticut Public Expenditures Council and were derived using the sales/assessment ratio information, and thus are based on estimated full market value and not assessed value. For the City of New Haven, the equalized tax rate (ETR) expressed per \$1000 worth of full market value of the property, was 29.30 in 1978. This represents a considerable hike in tax rate (ETR during the past few years -- as of October 1977, ETR was 21.10).

Indeed heavier reliance on the local tax base manifested itself in terms of both rapid increment in tax rate on one hand and declining municipal services on the other, as shown by the expenditures decline. (See Exhibit 3-5).

### 3.6 Direct Impact of Retail Trade Reduction on the City of New Haven's Commercial Property Tax Base

Given the fact that the retail sales loss to the entire City of New Haven is estimated to be 8.2 percent reduction by 1985-1990 what would be the impact on the property tax base of the City of New Haven?

There are two parts to the impact: direct and indirect. The direct impact refers to the reduced retail sales on the valuation of the retail properties in the City, and the indirect impact refers to the spillover effects of reduced property values of the commercial property on the rest of the properties in the City. In this section, we deal with only the direct effect and the other section, the indirect effect.



### 3.7 Direct Impact on Commercial Property: Cost Approach

There are basically three approaches to the income producing property valuation: income approach; cost approach; and market approach. Of these three, the income approach is generally preferred. The cost approach is traditionally the fastest and least complicated of the three approaches, and consists of an estimate of reproduction or replacement costs less physical, functional, and economic depreciation. The market approach plays an important role where ample sales of similar properties exist, and it reflects the actual reactions of buyers and sellers in the market place. The income approach requires the market data on rents, occupancy rates, and expense data. In this study, we will use both cost and income approaches to check the accuracy of estimates arrived at by each method.

The result of the Impact on the Region's Towns via cost approach are shown in Exhibit 3-6. It shows that the regional community (17 towns in the trade area excluding North Haven) will lose \$1,556,379 (See Column 6 of Exhibit 3-6) in tax revenue per year. Against which, the Town of North Haven alone will yield a net benefit of \$424,646. It is estimated that the gross tax revenue to the Town of North Haven will be \$784,646, but the Town incurs \$360,000 per year (\$110,000 for increased costs of municipal services plus \$250,000 for annual debt service for \$2.5 million capital improvement to be financed by the Town of North Haven,\*) Note that Exhibit 3-6 deals with only the real property.

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\* For full explanation, see Section 3-15 of this report.

**EXHIBIT 3-6**

**REGIONAL FISCAL IMPACT OF NORTH HAVEN MALL  
COST APPROACH  
(In 1977 Dollars)  
REAL PROPERTY ONLY**

| Towns  | (1)<br>Shoppers Goods<br>Sales Loss | (2)<br>Total Retail<br>Sales Loss<br>(In millions) | (3)<br>Retail Floor<br>Space Loss<br>in sq. ft. | (4)<br>Tax Base<br>(Market Value)<br>(In thousands) | (5)<br>Equalized<br>Tax Rate | (6)<br>Tax<br>Revenue<br>Loss | (7)<br>1978 Equalized<br>Net Grand List<br>(In thousands) | (8)<br>Impact Percent<br>of Net Grand List |
|--|-------------------------------------|--|---|---|------------------------------|-------------------------------|---|--|
| North Haven  | +85.0                               | + \$114.75   | + \$1,076,000                                   | + \$53,800,000                                      | 14.58                        | + 784,646                     | 864,067   | +6.3%                                      |
|  |                                     |  |   |   | Less                         | 360,000                       |   |  |
| New Haven  | -25.9                               | - 31.42  | - 369,647                                       | - 18,482,350  | 35.12                        | - 649,100                     | 1,895,921   | -1.0%                                      |
| Wallingford  | - 9.4                               | - 11.40  | - 134,118                                       | - 6,705,900   | 15.49                        | - 103,874                     | 898,326   | -.7%                                       |
| Hamden   | -19.7                               | - 23.90  | - 281,176                                       | - 14,058,800  | 40.74                        | - 572,756                     | 1,172,200   | -1.2%                                      |
| North Branford   | *                                   | *  | *   | *   | 35.74                        | *                             | 276,557   | -  |
| East Haven   | - 1.                                | - 1.46   | - 17,176  | - 858,800   | 24.22                        | - 20,800                      | 440,252   | -.2%                                       |
| Bethany  | *                                   | *  | *   | *   | 5.92                         | *                             | *   | -  |
| Woodbridge   | - .3                                | - .36  | - 4,235   | - 211,765   | 20.39                        | - 4,318                       | 334,188   | -.1%                                       |
| Orange   | - 5.8                               | - 7.04   | - 82,824  | - 4,141,200   | 8.55                         | - 35,407                      | 569,535   | -.7%                                       |
| West Haven   | - 3.0                               | - 3.64   | - 42,824  | - 2,141,200   | 33.13                        | - 70,938                      | 999,176   | -.2%                                       |
| Branford   | - 1.0                               | - 1.21   | - 14,235  | - 711,765   | 13.68                        | - 9,737                       | 610,313   | -.1%                                       |
| Guilford   | - .4                                | - .49  | - 5,765   | - 288,235   | 16.07                        | - 4,632                       | 527,451   | -.1%                                       |
| Madison  | - .1                                | - .12  | - 1,412   | - 70,588  | 11.57                        | - 817                         | 494,869   | *  |
| Clinton  | *                                   | *  | *   | *   | 19.32                        | *                             | 302,673   | *  |
| Durham   | *                                   | *  | *   | *   | 15.84                        | *                             | 112,448   | *  |
| Middlefield  | *                                   | *  | *   | *   | 17.08                        | *                             | 85,683  | *  |
| Meriden  | - 5.9                               | - 7.16   | - 84,235  | - 4,211,750   | 17.49                        | - 73,664                      | 1,001,177   | -.4%                                       |
| Cheshire   | - .9                                | - 1.09   | - 12,824  | - 641,200   | 16.12                        | - 10,336                      | 604,743   | -1.1%                                      |
| TOWN TOTAL (except<br>North Haven)                                       | -73.6                               | - 89.28  | -1,050,353                                      | -52,517,650   | -                            | -1,556,379                    | 11,759,114  | -.5%                                       |
| NET COSTS TO THE REGIONAL COMMUNITY-----1,556,379 - (784,646 - 360,000 ) |                                     |  |   |   |                              |                               | -\$1,131,733  |  |

\* \$110,000 for increased costs of municipal services plus \$250,000 for annual debt service for \$2.5 million capital improvement projects to be financed by the Town of North Haven.

Sources: (1) : Exhibit 2-6; (2): Exhibit 2-8; (3) = (2) / \$85; (4) = (3) x \$50; (5) = 1979 assessment/sales ratio for commercial, industrial, and public utility properties x 1978 mil rate of each town; (6) = (4) x (5) (7): Connecticut Public Expenditures Council; (8) = (4) / (8).

Net costs to the regional community via the cost approach shows that the region is to lose \$1,131,733 in annual tax revenue due to North Haven Mall development. This does not, however, take into consideration the impact on personal properties valuation related to retail businesses. (For full impact, see Exhibit 3-12)

### 3.8 Income Approach

According to Kinnard, "income-producing real estate is valued in terms of the future net income stream it is forecast to be capable of producing, and most likely to produce, under typically competent management. Therefore, the best measure of Market Value, or of any other value sought, is the discounted present worth of that forecast net income stream."<sup>\*</sup>

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<sup>\*</sup> William N. Kinnard, Jr., Income Property Valuation (Lexington, Mass.: Heath Lexington, 1971), p.237.

Rutgers University Center for Urban Policy Research publication also noted: "Increasingly, local tax assessors are using the income of multi-family residential and commercial real properties as the basis upon which to estimate their value. Thus, although information which would gauge the value of these properties based on replacement costs or comparative sales is available, the income approach is often preferred locally".\*

The value of non-residential improvements depends upon their income generating capacity, i.e., rents. Thus the Burlington Study observed:\*\*

"Multi-family properties have a residential rent generating capacity. Industrial facilities house production capabilities that make them worthy of rent payment. Commercial properties, especially retail establishments, have value and generate income relative to their sales capacity. Sales volume generates income from which proprietors can pay expenses and earn a profit.

The ratios of rents to sales for various types of retail facilities, depending on their service mix, are relatively fixed. If rents go up as a percentage of sales, prices soon must follow. In turn, if the merchandise offerings become overpriced--the store will be non-competitive. Therefore:

1. Rents ultimately must be a reflection of sales.
2. If the latter are decreased, rents must also follow.
3. If rents are reduced, the market value--and the assessment base will be lowered. This is particularly the case when the problem is not specific to one tenant but rather is the result of a broad impact upon total sales of the area. (emphasis is theirs).

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\* Robert W. Burchell and David Listokin, The Fiscal Impact Handbook. (New Brunswick, N.J.: Rutgers University Center for Urban Policy Research, 1978). Chapter 5.

\*\* Thomas Mullet et.al., The Economic and Fiscal Effects of Regional Shopping Malls: The Vermont Experience (Unpublished Working Papers), pp.128ff.

The logic of the argument presented above can be also arithmetically shown. The income approach of property valuation can be summarized by the following equation:

$$\text{Property Value} = \text{Net Income from the Property} / \text{Capitalization Rate} *$$

It says that the value is directly proportional to the size of net income (average net income stream annualized) but inversely related to the capitalization rate. Accordingly, assuming the capitalization rate is fixed, the property value changes in direct proportion to the changes in the net income; when net income increases by x percent, value also changes by x percent. It follows then, if retail sales potential drops by x percent, rent potential of the property also declines by x percent, and ultimately, the value of the property reduces by x percent.

However, the declining retail sales in the downtown New Haven may lead to further reduction in property value due to increased uncertainty and risks in the downtown investments. When there is a change in uncertainty and risks in investments, the capitalization rate must also change.

Capitalization rate (R) consists of two components: rate of return on total investments (R01) and the recapture rate of capital (RRC).

$$R = R01 + RRC$$

R01 in turn consists of two components: pure interest rate plus interest rate for risk taking,\*\*

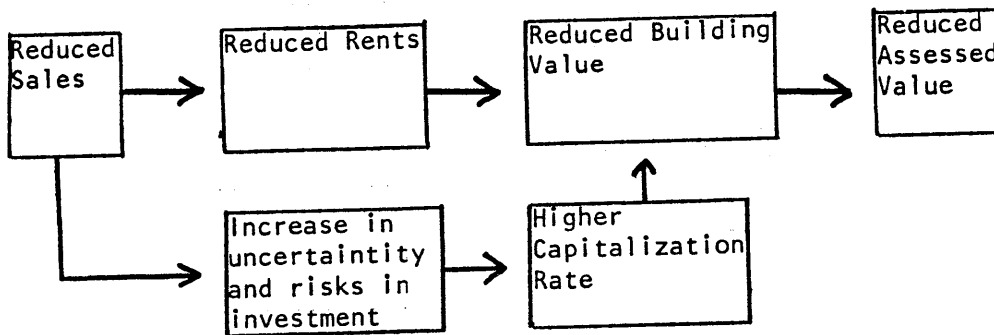
$$R01 = \text{Pure Interest Rate} + \text{Risk Rate}$$

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\* Assumes the level net operating income for infinite period of useful life of the property with zero salvage or reversion value.

\*\* Halvert C. Smith, et al., Real Estate and Urban Development, 1981 Third Edition, (Homewood, Ill: Richard D. Irwin, Inc., 1981) pp.48ff

The causal relationships are shown below:



In conclusion, a loss of 8.2 percent of retail sales in the City of New Haven will minimally lead to an equivalent loss of retail ratables ... not taking into consideration the higher capitalization rate. (See Exhibit 3-7).

### 3.9 Direct Impact on Retail Property in New Haven: Income Approach

The cost approach has proven that there exist net costs to the Regional community; but it does not present the full costs for society. Therefore, the fiscal impact of the North Haven Mall on the regional community is measured once again with the application of the Income Approach.

As shown in Exhibit 3-7: the retail property valuation will decline by 8.2%; the total commercial property valuation (including retail as well as offices and other non-retail properties) will decline by 3.6 percent; and shows a decline of 1.5% of total equalized net grand list of the City of New Haven. (See the last column of Exhibit 3-7).

EXHIBIT 3-7

DIRECT IMPACT ON TAX BASE, CITY OF NEW HAVEN  
(in millions of 1978 dollars)  
(Without taking into consideration Impact on Residential Sector.)  
INCOME APPROACH

| Properties<br>Class         | 1990 Without Mall* |                 |                  | Change<br>(8.2% Commercial<br>Base Reduction) |          |       | 1985-90 With North Haven Mall |          |         |        |
|-----------------------------|--------------------|-----------------|------------------|---|----------|-------|-------------------------------|----------|---------|--------|
|                             | (1)<br>Real        | (2)<br>Personal | (3)<br>Total (%) | Real  | Personal | Total | Real                          | Personal | Total   | Change |
| <u>Residential</u>          | \$695.8            | --              | 695.8            | 0   | 0        | 0     | 695.8                         | --       | 695.8   | 0      |
| <u>Commercial</u>           |                    |                 |                  |   |          |       |                               |          |         |        |
| Retail <sup>a</sup>         | 211.1              | 112.7           | 333.8            | -18.2   | -9.3     | -27.5 | -202.9                        | -103.4   | -306.3  | (-8.2) |
| Offices &<br>Others         | 290.6              | 148.2           | 438.8            | 0   | 0        | 0     | 290.6                         | 148.2    | 438.8   | 0      |
| Total                       | 511.7              | 260.9           | 772.6            | -18.2   | -9.3     | -27.5 | 491.9                         | 250.8    | 742.7   | (-3.6) |
| <u>Industrial</u>           | 113.0              | 16.0            | 129.0            | 0   | 0        | 0     | 113.01                        | 16.0     | 129.0   | 0      |
| <u>Public<br/>Utilities</u> | 82.7               | 3.0             | 85.7             | 0   | 0        | 0     | 82.7                          | 3.0      | 85.7    | 0      |
| <u>Vacant Land</u>          | 21.6               | --              | 21.6             | 0   | 0        | 0     | 21.6                          | --       | 21.6    | 0      |
| <u>Motor Vehicles</u>       | --                 | 110.5           | 110.5            | 0   | 0        | 0     | --                            | 110.5    | 110.5   | 0      |
| <u>Total</u>                | 1,424.7            | 471.1           | 1,895.9          | --  | --       | --    | 1,406.5                       | 461.8    | 1,868.4 | (-1.5) |

\*Assumed to be the same as of 1979 in real terms

(1) See Exhibit 3-1

(2) Personal property values are apportioned. They include business-owned aircraft machinery, furniture, mechanic tools, mercantile inventory, cables, boats, and others.

a. The retail/other commercial employment ratio (.432) for the New Haven LMA is multiplied to the total commercial property valuation. Other commercial (wholesale, finance, insurance, real estate, and services) employment is counted one-half.

The difference between the result obtained in the Cost Approach (Exhibit 3-6) shows an increment of .6% decline in the net grand list of the City. This is due primarily to the inclusion of the fiscal impact on personal properties (including the value of business owned machinery, furniture, mechanic tools, mercantile inventory, cables, boats, and others) related to retail real properties. From the New Haven example, the fiscal impact on the Personal property constituted 50.2% (See Exhibit 3-8) of the impact on the real and personal properties for all towns in the region.

### 3.10 Direct Impact on Regional Tax Base

As shown in Exhibit 3-8, the income approach includes the impact on both real and personal retail properties. Accordingly, we have increased the "equalized" valuation of tax base loss (Column 3, Exhibit 3-6) by Personalty/Commercial realty ratio of each town to estimate the region-wide impact. (Exhibit 3-8).

One may conclude that the net gain in tax base of the regional community to be \$6.2 million. The amount of net gain thus calculated is rather small. While the North Haven Mall will benefit the Town in which it will be located in terms of tax base, it would definitely have sizable negative impacts on the municipalities such as Wallingford, Hamden, Cheshire, and especially the City of New Haven. We shall therefore trace through various fiscal impacts on the City of New Haven in the subsequent sections.



## EXHIBIT 3-8

Direct Impact on Total (Real & Personal Property) Tax Base  
Due to North Haven Mall

| TOWNS          | (1)<br>Retail Real Property<br>Tax Base Loss<br>(Cost Approach) | (2)<br>Personal/<br>Commercial<br>Eq. Value Ratio | (3)<br>Real & Personal<br>Property Tax Base<br>Loss/Gain |
|----------------|---|---|--|
| North Haven    | +53,800,000   | .587  | +85,380,600  |
| New Haven      | -18,482,350   | .502  | -27,760,489  |
| Wallingford    | - 6,705,900   | .467  | - 9,837,555  |
| Hamden         | -14,058,800   | .544  | -21,706,787  |
| North Branford | *   | 1.045   | *  |
| East Haven     | - 858,800   | .663  | - 1,428,184  |
| Bethany        | *   | .381  | *  |
| Woodbridge     | - 211,765   | 1.443   | - 517,342  |
| Orange         | - 4,141,200   | .277  | - 5,288,312  |
| West Haven     | - 2,141,200   | .445  | - 3,094,034  |
| Branford       | - 711,765   | .604  | - 1,141,671  |
| Guilford       | - 288,235   | .860  | - 536,117  |
| Madison        | - 70,588  | .822  | - 128,611  |
| Clinton        | *   | .838  | *  |
| Durham         | *   | .880  | *  |
| Middlefield    | *   | .814  | *  |
| Meriden        | - 4,211,750   | .557  | - 6,557,695  |
| Cheshire       | - 641,200   | .762  | - 1,129,794  |
| Total          | -52,517,650   | .509  | -79,126,591  |
| Net Gain       | + 1,282,350   |   | + 6,254,009  |

Sources: (1) ; See Exhibit 3-6.  
 (2) Connecticut Office of Policy and Management, Intergovernmental  
 Relations Division; 1979 Equalized Net Grand Lists.  
 (3)=(1)x(2).

### 3.11 Property Tax Revenue Loss to the City of New Haven

The reduction in New Haven's tax base in the amount \$27,761,000 (see Exhibit 3-8) will bring reduction in annual property tax revenue at the equalized tax rate of .03512 for commercial real property and .04613 for personal property.\* Application of these rates shows that the City of New Haven stands to lose \$1,077,100 tax revenue per year. (See Exhibit 3-12)

This revenue loss is equivalent to 1.7 percent of grand levy (the City's intended 1978 property tax revenues).\*\* This potential revenue loss can be compared to expenditures of Parks and Recreation (\$1,957,856), Libraries (\$1,246,878), and all payment for general government fringe benefits. (See Exhibit 3-5)

### 3.12 Impact on the Tax Rate

The reduced tax base will have an immediate impact on the tax rate and/or the level of municipal services. The City has to either increase the tax rate in order to augment the dwindling revenue sources or cut back expenditure levels, or both.

Assuming that the City will not cut back on municipal services, we can estimate the tax increase in the City of New Haven due to the proposed North Haven Mall.

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\* This ETR is for commercial property. It is calculated by:  $ETR = EQL \text{ Rate} \times \text{Nominal Tax Rate}$  ( $.533 \times .0659 = .03512$ ). This differs from the average ETR applicable to all types of properties in the City of New Haven in 1978. Personal property  $ETR = .70 \times .0659$ .

\*\*Not all taxes are collected. Therefore effective grand levy is smaller than the size of grand levy. The potential tax revenue loss is equivalent to nearly 2 percent of the effective grand levy.

EXHIBIT 3-9CHANGES IN TAX RATE, CITY OF NEW HAVEN  
DUE TO NORTH HAVEN MALL

|                             | (1)<br>October, 1979<br>Without the Mall | (2)<br>1985-1990<br>With the Mall | Changes |
|-----------------------------|--|-----------------------------------|---------|
| Grand Levy                  | \$62,887,803                             | \$62,887,803                      | 0       |
| Equalized Grand List        | \$1,895,921,000                          | 1,868,160,000                     | (-1.5%) |
| Adjusted Equalized Mil Rate | 29.3                                     | 29.74                             | (-1.5%) |

Source: (1) Connecticut Public Expenditures Council

It would be an increase of 1.5% or .44 mil rate. It means that the average homeowners in the City must pay \$21.03 more tax per year with median housing value of \$47,800 in 1980 according to the U.S. Census data.

3.13 Full or Total Impact on Tax Base Including Indirect Impact:  
Long-Run Impact

The negative impact on the tax base will not, however, be limited to the Commercial properties throughout the City and especially in the CBD. The impact is expected to reach residential sectors as well in the long-run.

The dynamic process of decline in the City's tax base will lead to ever increasing tax rates and/or declining municipal services. This double pronged impact on the City will be immediately felt on the quality of life in the City and the values of the residential properties. Just as the decline in income-earning potential has lowered proportionately the property value of commercial buildings, the increase in tax rate for the rest of the properties would have negative impact on the valuation of residential properties in the market place.

The history of suburbanization in the SMSAs throughout the nation is also a history of how the weakening demand for residential properties has lowered valuation of all property in central cities of the SMSAs.

Other factors being equal, the rise in tax rate and tax payments by income producing property owners (especially commercial and rental housing units) have the effects of reducing the net operating income, and also increasing the required capitalization rate.

Although we do not attempt to measure the impact on the residential sector, the potential loss must be viewed in the context of a regional growth potential in the 1980's. The supporters of the Mall might argue that the downtown, once in demise, can be redeveloped as an office center, and thus would not be a "real" loss to the property values and hence assessed value of the tax base of the City. A number of factors will refute this contention.

First, implicit to the very slow growth population forecast for the New Haven area is the fact that there would not be significant change, or introduction of economic base (growth inducing development) for the region.

Second, it can be further argued that the very reason why the outlook is bleak for the region in the 1980s is exactly because the "unplanned" (in terms of overall regional planning and development point of view) regional shopping mall such as the proposed North Haven Mall is likely to have a depressing effect on the vitality of the regional core. (So far anything which has been sustaining the area even at this level is because of Yale University, Health Care Hospital Centers, and some traditionally rooted businesses and organizations such as the Knights of Columbus, utility companies, etc.) North Haven Mall development is not likely to help New Haven's effort to induce corporate offices to downtown.

3.14 The Decaying Process of Urban Environment: How the North Haven Mall Will Accelerate the Process

The deteriorating economic and tax base of the City of New Haven caused by the North Haven Mall will set in motion a vicious circle of decay, a withering of the City's physical plant. This all begins with cold figures and economic disease.,

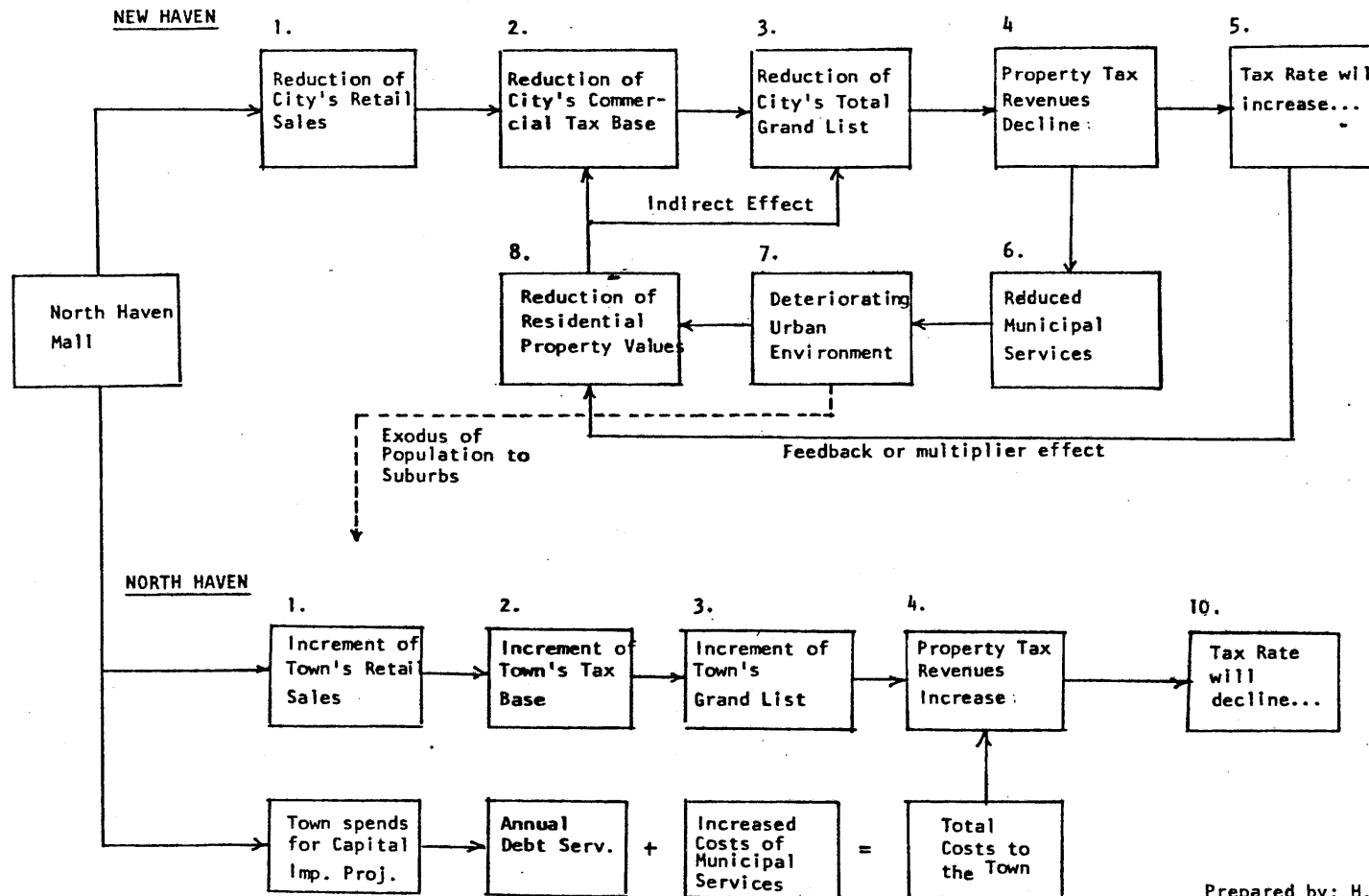
The vicious circle of Urban environmental decay works out the way it is illustrated in Exhibit 3-10, and the chain of events is as follows:

1. North Haven Mall will reduce the Retail sales of the central city, New Haven,
2. & 3. Reduced retail sale will reduce the tax base of the City in the form of reduced grand list.
4. Reduced Grand List means reduced potential tax revenues assuming no changes in tax rate,
5. & 6. Accordingly, the City will either increase tax rates and/or reduce the municipal services.
7. Reduced municipal services will contribute toward the decline in the quality of the environment,
8. Increased tax rates and declining quality of the environment will induce the movement of people to suburbs; will lead to the City increasing taxes on residential properties even more.
9. The total lower valuation of properties means the further reduction in the tax base of the City, and now the vicious circle is complete.

It must be emphasized that the question of North Haven Mall development is in microcosm, an issue no less than the issue of evaluating the future of decaying urban environment and the health and vitality of the entire regional community.

EXHIBIT 3 - 10

THE DECAYING PROCESS OF URBAN ENVIRONMENT : HOW THE NORTH HAVEN MALL HELPS IT.



Impact Summary

1. Inefficiency
2. Regressive Income Distribution Effect

### 3.15 Tax Impact on North Haven

For real property, the Mall will yield \$784,646 tax revenue assuming the full market value of the Mall to be \$53.8 million at the equalization ratio of commercial property to be .315 and the nominal tax rate of \$.04630.\*

$$53,800,000 \times .315 \times .0463 = \$784,646.$$

In addition, the Town will derive tax revenues from the personal properties (furnitures, tools, mercantile inventory, trucks, etc.) related to the Mall. As shown in Exhibit 3-12, this is estimated at \$877,309. Accordingly, the Town of North Haven is expected to collect a total of \$1,661,955 tax revenues from the real and personal properties of the North Haven Mall.

Costs to the Town. In another calculation, the total costs estimated at \$360,000 will incur to the town consisting of \$110,000 for increased costs of municipal services due to the Mall (very conservatively estimated by the Gladstone Associates), and \$250,000 for the annual debt service for \$2.5 million capital improvement projects (again conservatively estimated by the Gladstone Associates) to be undertaken by the Town to accommodate the shopping mall.\*\* (Gladstone, pp.75 & 76)

Net Benefits to the Town. Deducting the costs (\$360,000) from the gross benefits (\$1,661,955) will show the net benefits to the town to be \$1,301,955.

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\* Equalization ratio computed by the sales/assessment ratio study conducted by the State of Connecticut.

\*\*As of March, 1982, the tax-exempt municipal bond had the average interest rate of 12.76% as reported by The New York Times. The annual debt service at 12% for 20 years bond issue would be \$334,698.



EXHIBIT 3-11

Changes in Tax Rate, North Haven  
Before and After the Shopping Mall, 1978 - 1990

|                         | (1)<br>Before<br>1978 | (2)<br>After<br>1985-90   | (3)<br>Changes |
|-------------------------|-----------------------|---------------------------|----------------|
| Grand Levy              | \$15,077,569          | \$15,437,569 <sup>a</sup> | +2.4%          |
| Equalized<br>Grand List | 864,067,000           | 949,448,000               | +9.9%          |
| Equalized<br>Mil Rate   | 16.0                  | 14.94                     | -6.6%          |

## Sources:

(1): Connecticut Public Expenditures Council, Inc..

a. Added \$360,000.

The above estimations are made under the assumption that the Mall will pay the maximum tax under the full valuation of the property which in turn assumes full operation of the Mall. If the Mall pays, under the terms of agreement with the Town, only the minimum taxes of "\$350,000 in the first taxable year to \$525,000 in the 12th year of taxation",<sup>\*</sup> the town may not be able to even cover the annual costs of maintenance, conservatively estimated because the costs do not include "externality" effects of North Haven development, (i.e. unanticipated flooding). Although the minimum tax of \$525,000 in the 12th year look very large, in fact, if we discount it for 12 years at 12 percent interest rate, the present value is only \$ 134,754.

The anticipated net revenue to the Town of North Haven can be translated into the reduction of tax rate by 6.6% or from the current equalized tax rate of .016 to .01494. Given the median value of housing in North Haven to be \$69,500 in 1980, this means the reduction of \$73.67 per housing unit. (See Exhibit 3-13)

### 3.16 Efficiency Test: Net Benefits to the Region

|                               |   |                                |   |                       |   |  |
|-------------------------------|---|--------------------------------|---|-----------------------|---|--|
| Net Benefits<br>to the region | = | Net Benefits to<br>North Haven | - | Costs to<br>New Haven | - | Costs to the<br>rest of the towns<br>in the trade area |
|-------------------------------|---|--------------------------------|---|-----------------------|---|--|

Having calculated net tax benefits to the Town of North Haven to be \$1,301,955 tax revenue gain to the town, and the tax loss to the rest of the community in the region to be \$2,563,800 per year, there is the undisputed result of a net loss to the region in the amount of \$1,261,875 when the North Haven Mall will be in full operation in 1985-90. (See Exhibit 3-12)

**EXHIBIT 3-12**

**TOTAL TAX REVENUE LOSSES FROM REAL AND  
PERSONAL PROPERTIES DUE TO NORTH HAVEN MALL**

| Towns             | (1)<br>Real Prop.<br>Tax Base<br>Loss/Gain | (2)<br>Equal.<br>Tax<br>Rate<br>(Realty) | (3)<br>Tax Rev.<br>Loss from<br>Real Prop. | (4)<br>Personal/<br>Real Prop.<br>Value Ratio | (5)<br>Personal<br>Property<br>Tax Base<br>Loss/Gain | (6)<br>Equal. Tax<br>Rate for<br>Personalty | (7)<br>Tax Rev.<br>Loss from<br>Personalty | (8)<br>Total Tax<br>Revenue<br>Loss/Gain |
|-------------------|--|--|--|---|--|---|--|--|
| North Haven       | +53,800,000                                | .01458                                   | +784,646<br>Less 360,000                   | .587  | +31,580,600  | .02778                                      | +877,309                                   | +\$1,661,955<br>Less 360,000             |
| New Haven         | -18,482,350                                | .03512                                   | -647,100                                   | .502  | -9,278,139   | .04613                                      | -428,000                                   | -1,077,100                               |
| Wallingford       | - 6,705,900                                | .01549                                   | -103,874                                   | .467  | -3,131,655   | .03087                                      | -96,690                                    | -200,564                                 |
| Hamden            | -14,058,800                                | .04074                                   | -572,756                                   | .544  | -7,647,987   | .04347                                      | -332,458                                   | -905,214                                 |
| North Branford    | *  | *  | *  | *   | *  | *   | *  | *  |
| East Haven        | - 858,800                                  | .02422                                   | -20,800                                    | .663  | -569,384   | .04485                                      | -25,537                                    | -46,337                                  |
| Bethany           | *  | *  | *  | *   | *  | *   | *  | *  |
| Woodbridge        | - 211,765                                  | .02039                                   | - 4,318                                    | 1.443   | -305,577   | .02880                                      | -8,801                                     | -13,119                                  |
| Orange            | -4,141,200                                 | .00855                                   | -35,407                                    | .277  | -114,712   | .03000                                      | -3,441                                     | -38,848                                  |
| West Haven        | -2,141,200                                 | .03313                                   | -70,938                                    | .445  | -952,834   | .03451                                      | -32,882                                    | -103,820                                 |
| Branford          | - 711,765                                  | .01368                                   | - 9,737                                    | .604  | -429,906   | .02470                                      | -10,619                                    | -20,356                                  |
| Guilford          | -288,235                                   | .01607                                   | - 4,632                                    | .860  | -247,882   | .02310                                      | -5,726                                     | -10,358                                  |
| Madison           | - 70,588                                   | .01157                                   | - 817                                      | .822  | -58,023  | .02880                                      | -1,671                                     | -2,488                                   |
| Clinton           | *  | .01932                                   | *  | .838  | *  | *   | *  | *  |
| Durham            | *  | .01584                                   | *  | .880  | *  | *   | *  | *  |
| Middlefield       | *  | .01708                                   | *  | .814  | *  | *   | *  | *  |
| Meriden           | -4,211,750                                 | .01749                                   | -73,664                                    | .557  | -2,345,945   | .02226                                      | -52,221                                    | -125,885                                 |
| Cheshire          | - 641,200                                  | .01612                                   | -10,336                                    | .762  | -488,594   | .01925                                      | -9,405                                     | -19,741                                  |
| <b>Total Loss</b> | <b>-52,517,650</b>                         | <b>*</b>                                 | <b>-1,556,379</b>                          | <b>*</b>                                      | <b>- 26,731,483</b>                                  | <b>*</b>                                    | <b>-1,007,451</b>                          | <b>-2,563,830</b>                        |
| <b>Net Effect</b> | <b>+1,282,350</b>                          | <b>*</b>                                 | <b>-1,131,733</b>                          | <b>*</b>                                      | <b>+4,849,117</b>                                    | <b>*</b>                                    | <b>-130,142</b>                            | <b>-1,261,875</b>                        |

(1), (2), and (3): From Exhibit 3-6; (4): Connecticut Office of Policy and Management; (5) = (1) x (4);  
(6) = nominal tax rate x assessment ratio of each town; (7) = (5) x (6); (8) = (3) + (7).

The actual long-run effect will be more serious because a regional shopping center such as the North Haven Mall would set a vicious circle in both private and public sectors of urban environment.

This is particularly illogical because the nation poured into New Haven, millions of dollars of urban renewal funds during the 1950's and 1960's to redevelop its Downtown. The North Haven Mall is a misallocation of social (public and private) resources and would result in major dislocations in existing social investments.

### 3.17 Equity Criterion: Income Redistribution Effect

If the North Haven Mall did not meet the efficiency test and is a net loss to the society, it will completely fail in the equity test as well.

First, we will compare the relative tax burden at present in terms of ETR. As noted earlier, New Haven's residents and businesses pay \$29.30 per \$1,000 full value of the property in 1978. In contrast, in the same year, North Haven's comparable ETR was \$16.00. It means that North Haven residents pay tax at one-half (54.6%) the rate of New Haven residents pay.

That was the tax rate before the North Haven Mall. Now after the Mall will be introduced, the tax rate will increase in New Haven by 1.5% and the tax rate will decrease in North Haven by 6.6%. Accordingly, the income redistribution effect is highly regressive for North Haveners per capita income (\$6,737) is 33.9 % higher than New Haveners (\$5,032).

EXHIBIT 3-13  
 SELECTED CHARACTERISTICS OF MUNICIPALITIES IN THE  
 GREATER NEW HAVEN RETAIL TRADE AREA

| TOWNS          | (1)<br>1978<br>ETR | (2)<br>Per<br>Capita<br>Money<br>Income | (3)<br>Median<br>Value<br>Housing | (4)<br>Median<br>Contract<br>Rent | (5)<br>%<br>of<br>Minority |
|----------------|--------------------|---|-----------------------------------|-----------------------------------|----------------------------|
| North Haven    | 16.0               | 6,737                                   | 69,500                            | 262                               | 3.2                        |
| New Haven      | 29.3               | 5,032                                   | 47,800                            | 187                               | 37.9                       |
| Wallingford    | 16.7               | 6,058                                   | 63,900                            | 207                               | 1.6                        |
| Hamden         | 21.7               | 6,368                                   | 62,900                            | 259                               | 7.7                        |
| North Branford | 19.8               | 5,727                                   | 67,000                            | 247                               | 1.4                        |
| East Haven     | 24.0               | 5,151                                   | 50,700                            | 221                               | 1.0                        |
| Bethany        | 14.9               | 7,638                                   | 83,100                            | 234                               | 3.7                        |
| Woodbridge     | 15.0               | 11,284                                  | 121,600                           | 242                               | 2.1                        |
| Orange         | 14.5               | 8,494                                   | 98,700                            | 293                               | 2.1                        |
| West Haven     | 23.2               | 5,554                                   | 54,300                            | 226                               | 10.8                       |
| Branford       | 14.6               | 6,907                                   | 70,000                            | 249                               | 1.8                        |
| Guilford       | 15.6               | 7,070                                   | 82,200                            | 274                               | 1.9                        |
| Madison        | 14.0               | 7,170                                   | 92,700                            | 258                               | .7                         |
| Clinton        | 15.0               | 5,783                                   | -                                 | -                                 | -                          |
| Durham         | 20.1               | 6,070                                   | -                                 | -                                 | -                          |
| Middlefield    | 17.9               | 6,193                                   | -                                 | -                                 | -                          |
| Meriden        | 19.5               | 5,596                                   | 56,900                            | 713                               | 7.4                        |
| Cheshire       | 16.9               | 6,805                                   | -                                 | -                                 | -                          |

## Sources:

- (1) Connecticut Public Expenditures Council.
- (2) 1980 U.S. Census of Population.

The increasing tax rate, deteriorating municipal services, and generally deteriorating urban environment is now pushing the middle and upper income group, who could afford housing ownership there, to move to suburban towns...leaving only the poor in the central city. If this does not describe what happened before, and if the proposed North Haven Mall is not one more giant step to accelerate this process, we are indeed blind to the fact. If the society's policy is to reverse this trend, the North Haven Mall should not be built during the period of slow or minimum growth.

## CHAPTER 4

### EMPLOYMENT IMPACT

#### 4.1 Introduction

Just as the North Haven Mall would have an impact on the tax base of the regional community and will have regressive income redistribution effects, it will have a serious employment impact on the City of New Haven as well as the rest of the regional retail sales workers.

In general, employment effect is measured in terms of employment generated during the construction period as well as mall operation period. The former is only a one-time temporary effect but the latter is "long-term" and therefore more important.

It is also generally believed that a "direct" job created would have additional "indirect" effect of creating additional jobs. This total effect is generally termed as a multiplier effect.

Once again the approach is to calculate the net effect: on the one hand, to trace the number of employment generated and, on the other hand, to calculate the numbers of jobs lost. This is the efficiency test. Jobs are created in North Haven, but they are lost in New Haven and elsewhere. What is the net effect?

EXHIBIT 4-1

EMPLOYMENT DATA BY TOWN IN THE GREATER NEW HAVEN RETAIL TRADE AREA  
1977

|                | (1)<br>TOTAL EMPLOYMENT<br>(Non-Agricultural) | (2)<br>MANUFACTURING<br>EMPLOYMENT | (3)<br>NON-<br>MANUFACTURING<br>EMPLOYMENT | (4)<br>RETAIL<br>EMPLOYMENT | (5)<br>1977 RETAIL SALES<br>(In Thousands) |         | (6)<br>1977 ADJUSTED<br>RETAIL SALES<br>(In Thousands) |         | (7)<br>RETAIL EMPLOYMENT<br>SALES (In Millions) |
|----------------|---|------------------------------------|--|-----------------------------|--|---------|--|---------|---|
|                |   |                                    |  |                             | (A)  | (B)     | (A)  | (B)     | RATIO   |
| North Haven    | 18,960  | 9,510                              | 9,450                                      | 1,772                       | 73,609                                     | 70,015  | 78,762   | 74,916  | 23.65   |
| New Haven      | 88,520  | 12,720                             | 75,800                                     | 7,937                       | 357,172                                    | 339,204 | 382,174  | 362,948 | 21.87   |
| Wallingford    | 17,710  | 7,640                              | 10,070                                     | 2,447                       | 146,827                                    | 141,467 | 157,105  | 151,370 | 16.17   |
| Hamden         | 19,410  | 3,950                              | 15,460                                     | 4,027                       | 207,160                                    | 202,642 | 221,661  | 216,827 | 18.57   |
| North Branford | 2,930   | 980                                | 1,950                                      | 281                         | 15,133                                     | 12,984  | 16,192   | 13,893  | 20.02   |
| East Haven     | 3,770   | 600                                | 3,170                                      | 1,180                       | 71,065                                     | 66,897  | 76,040   | 71,580  | 16.49   |
| Bethany        | 750   | 140                                | 610  | *                           | *  | *       | *  | *       | *   |
| Woodbridge     | 2,160   | 210                                | 1,950                                      | *                           | *  | *       | *  | *       | *   |
| Orange         | 6,020   | 1,180                              | 4,840                                      | 2,130                       | 110,182                                    | 108,839 | 117,895  | 116,458 | 18.29   |
| West Haven     | 16,050  | 4,100                              | 11,950                                     | 2,039                       | 112,838                                    | 105,112 | 120,737  | 112,470 | 18.13   |
| Branford       | 8,240   | 2,920                              | 5,320                                      | *                           | 95,737                                     | *       | 102,439  | *       | *   |
| Guilford       | 3,920   | 960                                | 2,960                                      | 937                         | 51,649                                     | 49,730  | 55,264   | 53,211  | 17.61   |
| Madison        | 3,170   | 30                                 | 3,140                                      | 602                         | 35,426                                     | 33,722  | 37,906   | 36,083  | 16.68   |
| Clinton        | 3,200   | 1,340                              | 1,860                                      | *                           | *  | *       | *  | *       | *   |
| Durham         | 900   | 320                                | 580  | *                           | *  | *       | *  | *       | *   |
| Middlefield    | 940   | 600                                | 340  | *                           | *  | *       | *  | *       | *   |
| Meriden        | 22,980  | 6,530                              | 16,450                                     | 3,169                       | 175,175                                    | 168,685 | 187,437  | 180,493 | 17.56   |
| Cheshire       | 8,430   | 3,480                              | 4,950                                      | 1,072                       | 61,727                                     | 59,781  | 66,048   | 63,966  | 16.76   |

SOURCES AND NOTES: (1), (2), and (3) are from 1981 Connecticut Market Data, published by Connecticut Department of Economic Development.  
 (4): 1977 U.S. Census of Retail; (5)-A: Total retail sales data from 1977 U.S. Census of Retail; (5)-B: Retail sales with payroll. Data from 1977 U.S. Census of Retail; (6) A & B: Column (5) figures are adjusted to include 7% sales tax;  
 (7) = (4) / (6)-B.  
 \* Data unavailable or insignificant.



More importantly, we are concerned as to who will lose the job, as well as who will get the job. This would have a serious income redistribution effect, thus testing once again the equity criterion.

The comparison of "with" and "without" the mall is still helpful to undertake the tasks, and will form the framework of comparisons which follow.

#### 4.2 Construction Employment at the Mall

Given the task of constructing 1,116,000 square feet of retail space on 127 acres of land, the average per square foot construction cost of \$60 results in the estimated total construction cost of \$72.4 million expressed in 1980 dollars.

Assuming average annual gross wage of \$26,079 per full-time construction worker\*, and Wages are Approximately 30 percent of the total construction costs, the project would require 833 person-years of construction work during the 3-year period. (See Exhibit 4-3)

The actual number of workers and types of workers would vary during the course of construction period, but on the average 277 person-years of workers will be engaged in the construction of the Mall for three years. It is estimated, however, that 55 percent of these workers are not from the regional communities.\*\*

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\*\$12.49 average hourly rate x 174 hours average number of working hours per month x 12 months = \$26,079, in 1980 dollars. See Gladstone, Op.Cit., p.84.

\*\*Ibid., p.88.

#### 4.3 Construction Employment Without the Mall

Without the Mall construction, it is assumed the downtown New Haven will go ahead fully with the redevelopment plan proposed by the Rouse Company or a similar developer,

Rouse Company's plan calls for three department store developments of the New Haven CBD. First, it relocates Macy's from the present location to a new building with a new parking garage to be built by the city; second, builds a new Mall at the old Macy location; third, builds a new third, (including Malley's) department store. (Because of the recent closing of Malley's, the plan may be revised, but it is assumed that the basic configuration of the plan will be unchanged.)

Only the first two stages of construction cost is estimated. It is figured at \$24.8 million not including public improvement costs and site acquisition costs. (See Exhibit 4-2, as expressed in 1980 constant dollars to facilitate comparison.)

As shown in Exhibit 4-2, on the plus side, North Haven Mall construction would maintain 833 person-years of construction jobs during the 3 year period (or 277 p.y. jobs per year on the average). In addition, 472 person years of jobs are assumed to be created due to the multiplier effect. On the debit side, the "opportunity cost" of the Mall construction is the jobs lost due to not redeveloping the New Haven CBD as it is proposed by the Rouse Company. It is estimated that the potential jobs lost would be in the magnitude of 446 person years. This is a critical figure to remember when comparisons are to be made.

EXHIBIT 4-2CONSTRUCTION PERIOD EMPLOYMENT ADDED  
& LOST : ONE-TIME EFFECT

(In 1980 Dollars)

|   | Opportunity Cost<br>of Not Redeveloping<br>New Haven CBD | Employment Added<br>by North Haven<br>Mall Construction |
|---|--|---|
| 1. Retail Space to be Added   | -  | 1,207,350 sq. ft.                                       |
| 2. Retail Space to be Foregone                                      | 354,285 sq. ft.  |   |
| 3. Average Construction Cost<br>(excl. site acquisition)            | \$60 per sq. ft  | \$60 per sq. ft.  |
| 4. Total Construction Cost  | \$24,757,100   | \$72,441,000  |
| 5. Wages (30% of Total Cost)  | \$ 7,427,130   | \$21,723,300  |
| 6. Construction Period  | 36 months  | 36 months   |
| 7. Average Annual Gross Wage of<br>a full-time Construction Worker* | \$26,079   | \$26,079  |
| 8. Total Construction Employment<br>Generated (Direct Effect)       | 285 person-years   | \$833 person-years                                      |
| 9. Average Number of Workers/year                                   | 95 person-years  | 95 person-years   |
| 10. Multiplier**  | 4.5  | 4.5   |
| 11. Percent of (8) considered<br>as economic "base"                 | 16.18%   | 16.18%  |
| 12. Indirect Employment Effect                                      | $(285 \times .1618) \times 3.5 = 161$                    | $(833 \times .1618) \times 3.5 = 472$                   |
| 13. Total (Direct & Indirect)<br>Employment Effect                  | $285 + 161 = 446$ p.y.                                   | $833 + 472 = 1,305$ p.y.                                |
| 14. Total Net Employment Effect                                     | $1,305 - 446 = 859$ person-years.                        |   |
| 15. New Haven Area Net Benefits<br>(45% of total)#                  | $859 \times .45 = 387$ person-years.                     |   |

Sources: \*\$12.49(Average Hourly Rate) x 174 hrs/month x 12 months. Data from  
the Gladstone Report.

\*\*See text for the size of multiplier and the application.

#The Gladstone Report

The net effect (jobs created minus lost) would be 859 person-years. It is believed that 55 percent of the construction workers would come from outside the Greater New Haven community (i.e., trade area), and accordingly only 45 percent of 859 person-years, or only 387 person-years of construction jobs, would be created for one-time during the three-year period, or on the average, 97 jobs per year, which will disappear at the end of three years.

Assuming that some additional construction activities might be given up elsewhere in the trade area other than the CBD of New Haven, the claims heard that the North Haven site would create a large number of direct and indirect jobs, is misleading.

The Gladstone Report assumes a simple, uniform 2.5 multiplier and multiplies it to the total income generated hoping to derive a direct and indirect income generated.\* The result is a gross error and exaggeration. The error is due not so much to the multiplier size, but the misuse of the multiplier by the Gladstone Report. We shall therefore discuss in the subsequent sections, the size and the correct application of multipliers.

#### 4.4 Multiplier Size

The Economic Base Theory developed by Homer Hoyt divides local industries into two groups: basic and non-basic. According to this theory, a city's "basic" industries are export industries which earn

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\* Gladstone Associates, Op. Cit., pp. 91 and 95.

\*\*See Richard B. Andrews, "Mechanics of the Urban Economic Base: Historical Development of the Base Concept," in R.W. Pfouts, ed., The Techniques of Urban Economic Analysis (West Trenton, N.J.: Chandler-Davis Publishing, 1960), pp. 5-17.

**EXHIBIT 4-3**

**Derivation of an Economic Base Multiplier for the New Haven-Waterbury-Meridan-SMSA  
(in \$000)**

|                       | (1)<br>1980 U.S.   | (2)<br>Service | (3)<br>SMSA        | (4)<br>Basic   | (5)<br>Basic/Total Ratio          |
|-----------------------|--------------------|----------------|--------------------|----------------|-----------------------------------|
| Agriculture           | 19,855,300         | 74,356         | 11,000             | ---            | ---                               |
| Mining                | 7,284,300          | 27,279         | (D)                | ---            | ---                               |
| D Construction        | 52,486,600         | 196,559        | 234,500            | 37,943         | .1618                             |
| Mfg.                  |                    |                |                    |                |                                   |
| Food & Kindred        | 17,134,700         | 64,168         | 36,600             | ---            | ---                               |
| Textile               | 7,536,000          | 28,222         | 11,300             | ---            | ---                               |
| Apparel               | 9,704,000          | 36,341         | 33,200             | ---            | ---                               |
| Lumber                | 9,458,000          | 35,419         | 17,300             | ---            | ---                               |
| Paper                 | 8,699,500          | 32,579         | 25,300             | ---            | ---                               |
| Printing & Publishing | 13,080,100         | 48,984         | 73,400             | 24,416         | .3326                             |
| Chemicals             | 16,041,000         | 60,072         | 72,200             | 12,128         | .1680                             |
| Petroleum Ref.        | 3,234,200          | 12,112         | 3,200              | ---            | ---                               |
| Primary Metals        | 16,173,700         | 60,569         | 134,300            | 73,731         | .5490                             |
| Fabricated Metals     | 23,374,500         | 87,535         | 309,100            | 221,565        | .7168                             |
| Machinery             | 27,852,400         | 104,304        | 128,100            | 23,796         | .1858                             |
| Elec. Machinery       | 27,040,100         | 101,262        | 93,400             | ---            | ---                               |
| Motor Vehicles        | 15,187,500         | 56,876         | 5,500              | ---            | ---                               |
| Trans. Equip.         | 17,301,800         | 64,794         | 89,600             | 24,806         | .2769                             |
| Other Mfg.            | 29,175,000         | 109,257        | 271,300            | 162,043        | .5973                             |
| Trans. Comm. Pub.U.   | 56,816,900         | 212,774        | 262,400            | 49,626         | .1891                             |
| D Wholesale & Retail  | 148,563,600        | 556,356        | 552,200            | ---            | 0                                 |
| Fin., Ins., RE.       | 45,110,800         | 168,935        | (D)                | ---            | ---                               |
| Services              | 145,219,500        | 543,833        | 701,000            | 157,167        | ---                               |
| Gov.                  | 165,229,300        | 618,767        | 488,400            | ---            | ---                               |
| <b>Total</b>          | <b>881,560,000</b> |                | <b>3,542,300 *</b> | <b>787,221</b> | <b>4.50 (Regional Multiplier)</b> |

\*Excluding (D).

- Sources:
- (1): U.S. Department of Commerce Bureau of Economic Analysis.
  - (2): SMSA/U.S.A population ratio multiplied to 1980 U.S. employment shown in column 1.
  - (3): U.S. Department of Commerce Bureau of Economic Analysis.
  - (4) = (3) - (2) only for the industries which have larger values under (3) than (2).
  - (5) = (4) / (3).

incomes from the outside, and thus constitute city's economic foundations for growth. Not a foundation for growth, on the other hand, the non-basic industries are serving these basic industries.

Similarly, local employment can be divided in two: basic and non-basic employment, and according to the theory, when basic employment increases or decreases, the total employment (basic and non-basic) changes at certain multiples of the changes in basic employment.

$$\begin{array}{ccccc} \text{Changes in} & & \text{Employment} & & \text{Changes in Basic} \\ \text{Total Employment} & = & \text{Multiplier} & \times & \text{Employment} \end{array}$$

In order to calculate a multiplier for a given area: first, statistically sort out what portion of a given industrial sector's employment belongs to basic and non-basic categories; second, sum up all the basic employment in an area; then divide the total area employment to arrive at the estimated multiplier.

With a number of stringent assumptions, the easiest but not necessarily accurate method widely used is the location quotient method to determine export or basic employment. The aggregate income multiplier for the New Haven-Waterbury-Meriden SMSA is calculated to be 4.50, but in the Construction Sector, only 16.18% of total income is considered to be "basic" while "none" for the retail/wholesale sector. (See Exhibit 4-3)

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\* A much more sophisticated method is an input/output or interindustry model developed by Wassily Leontief. According to this model, a sectoral multiplier is used to measure total impact of a given sector's output to be delivered to the final demand sectors or users. There are two types of multipliers--called Type I and Type II. Type I measures only the direct and indirect effects whereas Type II multipliers measure direct, indirect

For the comparison purpose, the economic base multipliers calculated for other geographical areas are shown below. (The data used in this example of the method comes from the 1950 U.S. Census).

**EXHIBIT 4 - 4**  
ECONOMIC BASE MULTIPLIERS FOR SELECTED  
METROPOLITAN AREAS, 1950

| Standard Metropolitan Area    | (1)<br>Population | (2)<br>Multiplier |
|-------------------------------|-------------------|-------------------|
| New York-Northeast New Jersey | 10,232,039        | 5.03              |
| Chicago                       | 4,285,902         | 4.65              |
| Los Angeles                   | 3,405,797         | 5.15              |
| Philadelphia                  | 2,848,698         | 6.99              |
| Detroit                       | 2,269,725         | 3.19              |
| Boston-Lawrence-Lowell        | 2,049,947         | 5.13              |
| Mean-largest areas*           |                   | 5.02              |
| Erie                          | 163,850           | 3.37              |
| South Bend                    | 155,535           | 2.84              |
| Charlotte                     | 144,579           | 4.33              |
| Fort Wayne                    | 138,110           | 3.88              |
| El Paso                       | 137,221           | 4.42              |
| Evansville                    | 120,695           | 3.75              |
| Mean-smallest areas*          |                   | 3.77              |

(1) Population data based on 1950 definitions of Standard Metropolitan Areas.

(2): Britton Harris, "Comment on Pfouts' Test of the Base Theory," Journal of the American Institute of Planners, November 1958, p.236.

\*The six largest SMA's in Harris' sample were also the six largest in the nation. These were the six smallest SMA's in Harris' sample, though not the smallest in the nation.

as well as induced impacts due to income expenditures by workers. It is generally believed that the Type II multiplier is similar to Economic Base multipliers. The stringent data requirement generally preclude the application of this model to local and regional analysis. Although the national input/output tables prepared by the Bureau of Economic Analysis, U.S. Department of Commerce, and the U.S. Maritime Administration, U.S. Department of Commerce is available, the national multipliers cannot be used for local situations because the smaller geographical areas generally have smaller multipliers than the larger geographical areas due to impact leakages.

See H.C. Chung, Economic Impact of U.S. Maritime Industries: An Interindustry Approach, published by the U.S. Department of Commerce, Maritime Administration, January, 1981.

#### 4.5 Application of Multipliers

We will use 4.5 as the average multiplier for the New Haven Retail Trade Area. Earlier studies indicated that the location quotient method used in the estimation of the economic base multipliers tended to underestimate the size of the basic sectors compared to the results of actual survey.\* This means that the multiplier size of 4.5 is perhaps too large. For our study, however, the application of the multiplier is a more serious matter than the multiplier size as we discuss below.

It must be emphasized that the multipliers must be multiplied to the correct multiplicands. That is, the economic base multiplier must be multiplied to changes in basic employment, or the number of jobs which are assumed to produce goods and services to be exported to the outside of the region. As noted earlier, only 16.18 percent of the construction industry's income (or employment) was calculated to be generated from the "export or basic" sector, whereas "none" of the retail industry's income (employment) was considered to be "basic". It simply means that the entire income (or employment) generated by retail industry to be service or non-basic. Just to be on the conservative side, we will, however, assume that the "basic" percentage of the retail industry in the New Haven area to be 16.8 percent, a figure which is picked from the Tiebout's study in California.

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\* Charles M. Tiebout, The Community Economic Base Study, (New York, N.Y.: Committee for Economic Development, December, 1962), p.49.

\*\*Ubid., p.33.



In conclusion, the application of multipliers calls for:

For Construction Sector:

$$\text{Total Employment Effect} = \text{Multiplier } 4.5 \times \left( \text{Changes in Construction Employment} \times .1618 \right)$$

For Retail Sector:

$$\text{Total Employment Effect} = \text{Multiplier } 4.5 \times \left( \text{Changes in Retail Employment} \times .1680 \right)$$

In the above equations, the terms within the parenthesis are the number of employment considered to be basic in respective sectors.

We must remember that multipliers are only as good as the multiplicands for which they are designed...because the multipliers are defined as the ratio of total effect to changes in the multiplicand. Accordingly, the size of the multiplier changes depending on how we define the multiplicand.

#### 4.6 Employment To Be Added By the North Haven Mall Operation

If and when the North Haven Mall will be built, it is estimated that it will employ 1,750 full-time equivalent (FTE) employees. This figure is arrived at by multiplying average employment/sales ratio (1.45 FTE per 1000 square feet of retail space) to total retail spaces planned (1,207,350 square feet).\*

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\* The Gladstone Report assumed .73 full-time, and .57 FTE part-time (assuming part-time is one-half of a full-time worker), and .15 FTE for management, p.91.

Of these positions, approximately "93 full-time and 113 part-time" or 150 FTE positions "represent estimates of potential personnel transfers from the existing Sears and Penny's locations into new facilities at the North Haven Mall," (Gladstone, p.92)

The Net employment effect of the North Haven Mall is the generation of 1600 FTE positions. (See Row 1, Exhibit 4-3)

#### 4.7 Employment Losses by Towns Due to North Haven Mall Operation

One's gain is another's loss in a "very-slow" or "minimum growth" period anticipated in the 1980s. Exhibit 4-5 tabulates the numbers of retail sales jobs to be lost by 17 towns of the Greater New Haven Retail Trade Area if and when the North Haven Mall will become a reality.

The Greater New Haven Community as a whole (except North Haven) is expected to lose, 1,131,646 square feet of shoppers goods retail space, and in addition 241,041 square feet of other related retail space. As a result, 1,672 FTE (full-time equivalent) jobs will be lost in shoppers goods sales and an additional 373 positions in other retail sales--making a total employment loss of 2,045 positions throughout the region. (See Exhibit 4-5 for calculations)

In terms of the number of jobs to be lost by each town, we find that New Haven will lose as many as 787 retail sales positions; Hamden-451 positions; Cheshire-216 positions; Wallingford-180 positions;

EXHIBIT 4-5

EMPLOYMENT LOSSES BY TOWNS IN THE GREATER NEW HAVEN  
RETAIL TRADE AREA DUE TO NORTH HAVEN MAIL OPERATION.

| TOWNS          | (1)<br>Shoppers Goods<br>Retail Floor<br>Space Loss<br>(sq. ft.) | (2)<br>Shoppers Goods<br>Employment<br>Loss | (3)<br>Other Retail<br>Floor Space<br>Loss<br>(sq. ft.) | (4)<br>Other Retail<br>Sales Loss<br>(\$MM) | (5)<br>Retail Employment/<br>Sales per \$MM<br>Ratio | (6)-<br>Other Retail<br>Employment<br>Loss (4)x(6) | (7)<br>Total Retail<br>Employment<br>Loss (2)+(6) |
|----------------|--|---|---|---|--|--|---|
| North Haven    | +817,000   | --  | +299,000  | --  | 23.65  | --   | +1,750<br>Less 150 <sup>a</sup>                   |
| New Haven      | -369,647   | -566  | -78,735   | -\$5.52                                     | 21.87  | -121   | -687  |
| Wallingford    | -134,118   | -205  | -28,567   | - 2.00                                      | 16.17  | - 32   | -237  |
| Hamden         | -281,176   | -430  | -59,890   | - 4.20                                      | 18.57  | - 78   | -433 <sup>b</sup>                                 |
| North Branford | *  | *   | *   | *   | 20.02  | *  | *   |
| East Haven     | - 17,176   | - 26  | - 3,658   | - .26                                       | 16.49  | - 4  | - 30  |
| Bethany        | *  | *   | *   | *   | *  | *  | *   |
| Woolbridge     | - 4,235  | - 6   | - 902   | -- .06                                      | *  | *  | *   |
| Orange         | - 82,824   | -127  | -17,642   | - 1.24                                      | 18.29  | - 23   | - 29  |
| West Haven     | - 42,824   | - 66  | - 9,122   | - .64                                       | 18.13  | - 12   | - 54  |
| Branford       | - 14,235   | - 21  | - 3,032   | - .21                                       | 18.00  | - 4  | - 25  |
| Guilford       | - 5,765  | - 8   | - 1,228   | - .09                                       | 17.61  | - 2  | - 10  |
| Madison        | - 1,412  | - 2   | - 301   | - .02                                       | 16.68  | *  | - 2   |
| Clinton        | *  | *   | *   | *   | *  | *  | *   |
| Durham         | *  | *   | *   | *   | *  | *  | *   |
| Middlefield    | *  | *   | *   | *   | 17.56  | - 22   | -151  |
| Meriden        | - 84,235   | -129  | -17,942   | - 1.26                                      | 16.76  | - 3  | - 23  |
| Cheshire       | - 12,824   | - 20  | - 2,731   | - .19                                       |  | -301   | - 1,681   |
| 17 TOWN TOTAL  | -1,050,353   | -1,606                                      |   |   |  |  |   |

Net Employment Effect = 1,600 - 1,681 = -81

(1) = Column (3) in Exhibit 3-5.

(4) = Col. (1) in Exhibit 2-8 x .213

(2) = 1.53 FTE per 1,000 sq. ft. x Col. (1).

(5) = Column (7) of Exhibit 4

(3) = .213 x Column (1).

<sup>a</sup>Represents the transfer jobs from the existing J.C. Penney located in North Haven and Sears in Hamden. <sup>b</sup>Transfer jobs from the relocation of Sears and Roebuck is deducted from Hamden transfer loss in order to avoid double counting.

Meriden - 137 positions; Orange -129 positions; West Haven -71 positions; and East Haven -23 positions, in that order.

Just as there were transfer sales, sales taken away from other towns in the region, these potential job losses by towns can be termed as transfer jobs ... jobs which are merely equivalent to be transferred from towns in the region to the North Haven Mall. It is as if 150 FTE jobs would literally be transferred from Sears and Penney's to the North Haven Mall. There would be hardly any truly "new" jobs created by the North Haven Mall.

#### 4.8 Net Job Loss in the Greater New Haven Community

Comparing the estimated region-wide job loss of 1,681 to the 1,600 net positions to be created in the North Haven Mall clearly indicates that there would possibly be a net loss of 81 jobs in the entire Greater New Haven Community. We must conclude that the North Haven Mall will not add new jobs at all in net terms subtracting the jobs lost from the jobs gained when the region's demand for shoppers goods will not grow at all.

Multiplier Effects. If we apply the retail sector multiplier size of 4.5 or non-basic/basic ratio of 3.5 to the 'basic' portion of 81 retail job loss, the number of indirect jobs lost would be 48.

(i.e.,  $3.5 \times 81 \times .168 = 48$  jobs lost indirectly.)

Adding 81 and 48 gives 129 jobs as the total number of jobs to be lost in the region, net, of jobs to be created in the North Haven Mall. (or  $4.5 \times 81 \times .168 = 129$  )

#### 4.9 Past Record of Employment Changes in the Central Cities and Suburbs

How is it possible that the area communities will lose more jobs than the North Haven Mall creates? We offer the following answers.

- Because the North Haven Mall will be opened in a non-growth period.
- Productivity of the Mall is likely to be higher than the existing stores, thus fewer employees at the Mall can do the sales done by more employees (elsewhere) at present.

The table (Exhibit 4-5) demonstrates that during the growth period between 1967-1972, the balance of ten selected Northern SMSAs' shoppers goods employment increased by 89,000 and yet the central cities of these SMSAs registered a small reduction (-9,000) in shoppers goods employment.

In contrast, during the 1972-1977 period, when the shoppers goods sales stagnated due to escalating oil prices, the suburban shoppers goods employment increased by 44,000 and yet the central cities shoppers goods employment declined by 60,000, or 36 percent larger than the jobs gained by the suburbs. Indeed, it is possible that the region would lose more employment than the North Haven Mall will gain.

We conclude that it is historically incorrect and unrealistic in light of conditions in the 1980's to assume that a large-scale shopping facility such as the North Haven Mall would have only minimum impacts, in terms of retail sales lost, tax base and revenues lost, and employment dislocations on the Central City of the region as well as on smaller centers in the rest of the region.

EXHIBIT 4 - 6EMPLOYEES IN SHOPPERS GOODS ESTABLISHMENTS  
FOR SELECTED NORTHERN CITIES AND SMSA'S

1967-1977

|      | Central<br>Number | City<br>Change | Balance of SMSA<br>Number | Change  | Total SMSA<br>Number | Change  |
|------|-------------------|----------------|---------------------------|---------|----------------------|---------|
| 1967 | 354,000           |                | 293,000                   |         | 647,000              |         |
| 1972 | 343,000           | -9,000         | 402,000                   | +89,000 | 745,000              | +98,000 |
| 1977 | 283,000           | -60,000        | 446,000                   | +44,000 | 729,000              | +16,000 |

\* Selected SMSA's are: Boston, Chicago, Cleveland, Detroit, New York, Newark, Philadelphia, Pittsburgh, Kansas City, and St. Louis.

Source: U.S. Department of Commerce, Census of Retail Trade, 1967, 1972, and 1977.  
Quoted from Thomas Muller, "Regional Malls and Central City Retail Sales: An Overview," in George Sternlieb and James W. Hughes (ed.), Shopping Centers: U.S.A., (Piscataway, N.J.: Center for Urban Policy Research, Rutgers, the State University of New Jersey, 1981), p.194.

4.10 Who Loses and Who Gains the Job?

The picture emerged from the previous analysis is that nearly 1,681 retail jobs, not including 48 jobs to be lost indirectly, will be lost due to the North Haven Mall development, but then they will be replaced by 1,600 jobs which will be offered at the North Haven Mall. Accordingly, there would be a permanent loss of nearly 129 jobs, including direct and indirect effects, in the region due to the North Haven Mall.

The impact will not, however, be felt only in terms of net loss of jobs but more significantly, on many of those who will become unemployed and unable to travel to seek new jobs. This is so because the ones who lose jobs in the City of New Haven and elsewhere in the region

and the ones who will obtain the jobs at the North Haven Mall will not necessarily be the same individuals.

Who are the ones likely to lose jobs they have now? According to 1970 Census data (1980 Census data on socio-economic characteristics of population is not yet available.), the CBD workers, particularly the sales workers, had the following characteristics. (See Exhibits 4-6 and 4-7)

- Approximately 41.3 percent of sales workers working at the CBD reside in the City of New Haven. The remaining 58.7 percent of sales workers come from the immediate contiguous towns.
- 62.4 percent of sales workers of CBD are female.
- Male sales workers from the City had 73 percent of counterparts from the suburban towns.
- Female sales workers had mean earnings which were one-half to one-third of male earnings, and they were at minimum wage level regardless whether the workers are from the City or from the suburbs.
- 30.1 percent of CBD workers from the City relied on public transportation or other means for work trips compared to only 6.9 percent of CBD workers from suburban towns.
- Those who relied on public transportation or other means of transportation to work had approximately one-half of the earning of those who used private automobiles.

These findings from the 1970 Census are in agreement with some of the relevant results of the American City Corporation's survey of Downtown Office Worker conducted in 1982. In that study, 22.5 percent workers interviewed used the bus for work trips. The survey also indicated that 35 percent of the respondents reported that they lived in

## Exhibit 4-7

## New Haven CBD Sales Workers in 1970

|                    | Total       | Male     | Female  |
|--------------------|-------------|----------|---------|
| Total              | 1,149       | 432      | 717     |
| City Residents     | 475 (41.3%) | 192      | 283     |
| Mean Earnings      | -           | \$9,144  | \$4,137 |
| Suburban Residents | 674 (58.7%) | 240      | 434     |
| Mean Earnings      |             | \$12,518 | \$4,332 |

Source: 1970 U.S. Census of Population

## Exhibit 4-7

Means of Transportation to Work  
By CBD Workers, New Haven, 1970

|                         | City Residents |          | Suburban Residents |          |
|-------------------------|----------------|----------|--------------------|----------|
| Total                   | 1,591          | (100.0%) | 2,588              | (100.0%) |
| Mean Earnings           | \$ 9,144       |          | \$ 12,518          |          |
| Private Auto(Driver)    | 956            | ( 60.1%) | 2,268              | ( 87.6%) |
| Mean Earnings           | \$10,609       |          | \$ 12,989          |          |
| Private Auto(Passenger) | 157            | ( 9.9%)  | 144                | ( 5.6%)  |
| Mean Earnings           | \$10,447       |          | \$ 10,367          |          |
| Public Transportation   | 243            | ( 15.3%) | 154                | ( 6.0%)  |
| Mean Earnings           | \$ 5,325       |          | \$ 7,015           |          |
| Other Means             | 235            | ( 14.8%) | 22                 | ( .9%)   |
| Mean Earnings           | \$ 6,263       |          | -                  |          |

Source: 1970 U.S. Census of Population



the City of New Haven, and 60 percent lived within 5 miles of Downtown,

From these sample data, we may reasonably conclude that a considerable segment of 1,681 job losers would be living in the City of New Haven and not too far from the Downtown; a high percentage of them are female workers with minimum wages; and many of them are relying on the availability of a convenient and punctual bus system to get them to work,

Although it would be difficult to pinpoint the magnitude of who would fall into this category, there would be a substantial number of CBD workers who, once having lost jobs in the CBD, would not be able to relocate to jobs at the North Haven Mall because of the unavailability of convenient bus service or travel by private automobiles. Indeed the low-income level of their earning would preclude expensive ownership and use of automobiles for commuting to the North Haven Mall.

There have been a number of studies which identified the lack of means of transportation as one of the significant employment barriers among various segments of the population in Connecticut. A study of the Hispanic unemployed in the City of Bridgeport in 1974 has show that:

We found lack of transportation to be one of the significant hinderances to employment among the low-income unemployed, ... Most (46.5%) of Puerto Ricans work in the city within a radius of about 10 minutes from CBD.

In the same study, only 54.5 percent of the Puerto Rican labor force owned a private automobile, and only 53.5 percent had a driver's license.\*

In contrast, who will be the ones working at the North Haven Mall? Undoubtedly, there would be a direct transfer of personnel from Sears and Penny's. In addition, some who may expect to lose jobs in the CBD or elsewhere in the region will apply, for the job openings at the North Haven Mall to the extent that they live either close to the North Haven site or that automobiles are available to them for commutation. These workers are probably the ones who are commuting from North Haven, Branford, Wallingford, and other towns, to the CBD of New Haven.

Finally, there will be a third group who constitute the new entrants to the labor market. North Haven and many contiguous towns have a relatively low female labor force participation rates at present, and the job opportunities at the Mall will no doubt lure away many housewives and teenagers to engage in sales work either full or part-time basis. Many of these workers will undoubtedly come from household whose income level well exceeds household income of the city workers who they replace, (See Exhibit 3-8 for median income comparison.)

\* H. C. Chung, Survey of Spanish-Speaking American Manpower in the City of Bridgeport, published by the Higher Education Center for Urban Studies, 1975.

#### 4.11 Redistribution of Income Effect

When the jobs are "taken away" from the downtown New Haven to the North Haven Mall, the actual effect would be displacement of currently employed workers in downtown (mostly living in New Haven) and the hiring of North Haven and other nearby suburban towns' housewives and teenagers who have been hitherto not in the labor force --neither seeking employment nor thinking about working.

Since the displaced inner-city workers, with low-paid sales jobs, cannot afford expensive commuting, and due to limited mass transportation outside the City of New Haven, it is uneconomical to get a job in the North Haven Mall. Thus, Thomas Muller observed: " Given that the average earning wage for retail workers is close to the minimum wage, commuting would be discouraged, particularly since new malls are frequently ten or more miles from the CBD." \*

The North Haven Mall, then, has created a situation where jobs are taken away from the low-income primary wage earning city population, and given to the secondary workers whose family income is sufficiently high to live in mostly one-acre detached owner-occupied housing in the suburbs.

Albert J. Reiss, Jr. in his study of minority entrepreneurship noted: "at present time, 11 percent of the retail sales force in central cities is black. The comparable figure in suburban areas is (Sic) only 3 percent. ... In a similar vein while retail stores represent about 50 percent of all minority-owned firms in 1969, only 1.1 percent

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\*Thomas Muller, Op.Cit., p.193.

Of all minority-owned firms were in the suburbs."\*

In conclusion, there are two major observations about the employment impact of the North Haven Mall.

- Jobs are being reshuffled in the New Haven Region--new jobs are to be created in a manner as to not increase the total employment picture. Basic employment is not being developed at a rate to compensate the City of New Haven and other towns for the basic jobs which the North Haven Mall is taking away.
- The overall wealth of the Region is being negatively affected by the displacement of employment from the City of New Haven. Primary workers will be put out of jobs, causing increases in transfer payments from City and State; secondary workers will take those jobs--effectively increasing the size of the labor force but not the number of employed workers. The question of justice is raised: Is it fair to eliminate jobs for primary wage earners only to replace them in the employed labor force with secondary wage earners? In our complex economy, the costs of such actions rebound to the tax payer ultimately--it is the tax payer, who in the long run, subsidizes a project such as the North Haven Mall.

Clearly, there is something very wrong about the whole matter of reshuffling the jobs, taking away from the poor and giving it to the relatively rich individuals...particularly when such a move does not contribute to the economic growth of the region at all.

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\* Albert J. Reiss, Jr., Minority Entrepreneurship, (1961), p.81.

## Chapter 5

### ECONOMIC IMPACTS UNDER VARIOUS SCENARIOS

#### 5.1 Introductions

We have so far dealt with only one scenario, or possible future which we considered most probable. The assumption was that there would be hardly any growth in shoppers goods demand in the Greater New Haven area.

In this chapter, we will relax this assumption and try to evaluate other scenarios in terms of their impacts on the region.

#### 5.2 Defining Future Scenarios

We will define the future scenarios in terms of different levels of growth for the shoppers goods demand in the New Haven Trade Area during the 1980s. Accordingly, we will speak of a "zero growth" scenario (which we have been discussing so far in other chapters), a moderate growth scenario or maximum growth scenario.

To the extent that shoppers goods demand growth is the function of the population growth rate, income growth rate, and the percent of money income spent for shoppers goods, these scenarios are directly related to these variables. Accordingly, the following scenarios can be defined:

1. Zero-Growth Scenario... assumes 2.5% population growth rate, 0% income growth per year, and 12.5% of money income spent for shoppers goods. This will result in zero growth of shoppers goods demand. In this scenario, institutional population is assumed to spend one half of their money income for shoppers goods.

EXHIBIT 5-1

DEMAND FOR SHOPPERS GOODS UNDER VARIOUS SCENARIOS  
GREATER NEW HAVEN RETAIL TRADE AREA  
1977, 1985, and 1990

(In Millions of 1977 Dollars)

|                         | (1)<br>Zero<br>Growth | (2)<br>Minimum<br>Growth | (3)<br>Slow<br>Growth | (4)<br>Moderate<br>Growth | (5)<br>Maximum<br>Growth | (6)<br>Gladstone<br>"Worst Case" | (7)<br>Gladstone<br>"Best Case" |
|-------------------------|-----------------------|--------------------------|-----------------------|---------------------------|--------------------------|----------------------------------|---------------------------------|
| Population <sup>d</sup> | 2.5% <sup>a</sup>     | 2.5%                     | 2.5%                  | 5%                        | 5%                       | 5%                               | 5%                              |
| Income <sup>e</sup>     | 0%                    | 0%                       | 0%                    | 0%                        | 1%                       | 0%                               | 1%                              |
| GAFO Exp. <sup>f</sup>  | 12.5%                 | 12.5%                    | 13.5%                 | 13.5%                     | 13.5%                    | 13.5%                            | 13.5%                           |
| 1977 <sup>b</sup>       | \$404.6               | 404.6                    | 404.6                 | 404.6                     | 404.6                    | 417.0                            | 417.0                           |
| 1985                    | 404.6                 | 409.1                    | 425.6                 | 431.7                     | 454.6                    | 429.3                            | 464.9                           |
| 1990                    | 404.6                 | 413.6                    | 446.7                 | 458.8                     | 504.6                    | 464.9                            | 502.8                           |
| Change '77-'90          | 0                     | 2.2%                     | 10.4%                 | 13.4%                     | 24.7%                    | 11.5%                            | 20.6%                           |

a. Population in group quarters are counted as one-half.

b. Estimates for 1977 purchasing power for the New Haven Trade Area differs between Norris Andrews and Gladstone because they use different population and income data. Andrews used the most current data available. For the same reason, columns (4) and (6) as well as columns (5) and (7) are different although they are based on the same growth assumptions on population, income and the percent of money income spent for shoppers goods.

d. Percent of population growth during the 1980s.

e. Money income growth rate per year.

f. Percent of money income spent for shoppers goods.

- II. Minimum Growth Scenario...assumes the same growth rates for population, and income as well as the same 12.5% of money income spent for shoppers goods. However, no exceptions were made for the institutional population.
- III. Slow Growth Scenario... assumes 2.5% population growth during the 1980s, 0 percent income growth, and 13.5% of money income spent for shoppers goods.
- IV. Moderate Growth Scenario...assumes the combination of 5% population growth, zero percent income growth, and 13.5% money income spent for shoppers goods. This is basically the scenario called "worst case" by the Gladstone Report.
- V. Maximum Growth Scenario...assumes the population growth of 5%, 1% annual growth rate of money income, and 13.5% of money income spent for shoppers goods.

It is possible to evaluate any level of shoppers goods demand growth rate scenarios. But, we will be limited to the discussion of the above scenarios for brevity and for facilitating the comparison with the findings of the Gladstone Report. (See Exhibit 5-1)

### 5.3 Summary of Economic Impact of Zero-Growth Scenario

The findings are fully presented in this report, and are summarized in Exhibit 5-2. The highlights of these are:

. Sales Impact. Total transfer sales (sales taken away from the existing shopping facilities by the North Haven Mall) is estimated at \$73.6 million. In terms of absolute size of the transfer sales, the City of New Haven will lose most, with \$25.9 million of shoppers goods sales diverted to the North Haven Mall. This represents 19.4% of total City's shoppers goods sales in 1977. The New Haven Downtown is expected

**EXHIBIT 5-2 SUMMARY OF IMPACT OF NORTH HAVEN MALL ON THE REGIONAL ECONOMY**

1. Scenario: Zero Growth Population Growth: 2.5% ; Income Growth Rate: 0% per year ; 12.5% of Money Income Spent for Shoppers Goods

|  | SALES IMPACT  |  |   |  | FISCAL IMPACT                         |  |  |  |  | EMPLOYMENT IMPACT                         |                                 |  |
|--|---|--|---|--|---------------------------------------|--|--|--|--|---|---------------------------------|--|
|  | (1)<br>Shoppers<br>Goods<br>Sales<br>Loss<br>(\$MM) | (2)<br>% of<br>Total<br>GAFO<br>Sales<br>(%) | (3)<br>Total<br>Retail<br>Sales<br>Loss<br>(\$MM) | (4)<br>% of<br>Total<br>Retail<br>Sales<br>(%) | (5)<br>Tax<br>Base<br>Loss<br>(\$000) | (6)<br>% of<br>Net<br>Grand<br>List<br>(%) | (7)<br>Tax<br>Revenue<br>Loss<br>(\$000) | (8)<br>1978<br>Equalized<br>Mil Rate<br>(\$) | (9)<br>% Increase<br>in Tax<br>Rate<br>(%) | (10)<br>1977<br>Retail<br>Employ-<br>ment | (11)<br>Employ-<br>ment<br>Loss | (12)<br>% of<br>Total<br>Retail<br>Emp.<br>(%) |
| 1. New Haven                             | -25.9   | -19.4  | -31.4   | -8.2   | -27,761                               | -1.46                                      | -1,077.1                                 | 29.3   | +1.5                                       | 7,937                                     | -687                            | -8.7   |
| CBD                                      | -15.3   | -18.2  | -18.6   | -17.7  | -                                     | -  | -  | -  | -  | -   | -                               | -  |
| Balance                                  | -10.6   | -21.4  | -12.8   | -4.8   | -                                     | -  | -  | -  | -  | -   | -                               | -  |
| 2. Wallingford                           | -9.4  | -30.8  | -11.4   | -7.3   | -9,838                                | -1.10                                      | -200.6                                   | -16.7  | nc   | 2,447                                     | -237                            | -9.7   |
| 3. Hamden                                | -19.7   | -30.7  | -23.9   | -10.8  | -21,707                               | -1.85                                      | -905.2                                   | 21.7   | nc   | 4,027                                     | -433 <sup>a</sup>               | -12.6  |
| 4. North Branford                        | *   | *  | *   | *  | *                                     | *  | *  | *  | *  | *   | *                               | *  |
| 5. East Haven                            | -1.2  | -12.1  | -1.5  | -2.0   | -1,428                                | -3.25                                      | -46.3                                    | 24.0   | nc   | 1,180                                     | -30                             | -2.5   |
| 6. Bethany                               | *   | *  | *   | *  | *                                     | *  | *  | *  | *  | *   | *                               | *  |
| 7. Woodbridge                            | -3  | -5.8   | -4  | *  | -517                                  | -1.15                                      | -13.1                                    | 15.0   | nc   | *   | *                               | *  |
| 8. Orange                                | -5.8  | -16.9  | -7.0  | -5.9   | -5,288                                | -.93                                       | -38.8                                    | 14.5   | nc   | 2,130                                     | -29                             | -1.4   |
| 9. West Haven                            | -3.0  | -18.4  | -3.6  | -3.0   | -3,094                                | -.31                                       | -103.8                                   | 23.2   | nc   | 2,039                                     | -54                             | -2.6   |
| 10. Branford                             | -1.0  | -5.0   | -1.2  | -1.2   | -1,142                                | -.19                                       | -20.4                                    | 14.6   | nc   | *   | -25                             | nc   |
| 11. Guilford                             | -.4   | -3.7   | -.5   | -.9  | -536                                  | -.10                                       | -10.4                                    | 15.6   | nc   | 937                                       | -10                             | -1.1   |
| 12. Madison                              | -.1   | -2.4   | -.1   | -.3  | -129                                  | -.04                                       | -2.5                                     | 14.0   | nc   | 602                                       | -2                              | -.3  |
| 13. Clinton                              | *   | *  | *   | *  | *                                     | *  | *  | *  | *  | *   | *                               | *  |
| 14. Durham                               | *   | *  | *   | *  | *                                     | *  | *  | *  | *  | *   | *                               | *  |
| 15. Middlefield                          | *   | *  | *   | *  | *                                     | *  | *  | *  | *  | *   | *                               | *  |
| 16. Meriden                              | -5.9  | -28.0  | -7.2  | -3.8   | -6,558                                | -.66                                       | -125.9                                   | 19.5   | nc   | 3,169                                     | -151                            | -4.8   |
| 17. Cheshire                             | -.9   | -7.9   | -1.1  | -1.7   | -1,130                                | -.19                                       | -19.7                                    | 16.9   | nc   | 1,072                                     | 023                             | -2.1   |
| Trade Area Total<br>Excl. North<br>Haven | -73.6   | nc   | -89.3   | nc   | -79,127                               | nc   | -2,563.8                                 | *  | *  | 25,821                                    | -1,681 <sup>a</sup>             | -6.5   |
| 18. North Haven                          | +85.0   | *  | +114.8  | *  | +85,381                               | +9.9                                       | +1,303.0                                 | 16.0   | -6.6                                       | 1,772                                     | +1,600 <sup>b</sup>             | +90.3  |
| NET EFFECT                               | +11.4   | *  | +25.5   | *  | +6,254                                | *  | -1,261.8                                 | *  | *  | *   | -81                             | *  |

Source: H.C. Chung, Planning Consultant

a. Excludes 75 FTE employment from Sears to be relocated to North Haven to avoid double counting.



to lose \$15.3 million shoppers goods sales or 18.2 percent. In terms of percentage of retail sales loss, Hamden will be affected most, with 30.7 percent of its shoppers goods sales estimated to be lost to the North Haven Mall.

Fiscal Impact. North Haven is expected to improve its tax base (value of taxable property) in the amount of \$85.4 million including both real and personal property. At the 1978 tax rate, this will produce \$1,302,000 net tax revenues to the Town. (Gross revenue \$1,662,000 minus \$360,000 costs.) It can be translated into a tax reduction of 6.6 percent.

In contrast, the City of New Haven will experience the deterioration of its tax base by \$27,761,000 (1.46% of net Grand List), and tax revenue by \$1,077,100 per year. Although the City's loss in tax base is smaller than the tax base gain in North Haven, the current tax rate in New Haven (\$29.3 equalized tax rate per \$1000 worth of property) is almost two times higher than that of North Haven (\$16.0). Thus, the tax revenue impact is considerable in New Haven. The reduced tax revenue may be translated into a 1.5 percent tax rate hike, or reduced municipal services, or combination of both.

Similar negative fiscal impacts will be felt throughout the rest of towns in the region. The tax base of the region as a whole will diminish by \$79.1 million--an almost equal amount as North Haven will gain. But in terms of tax revenues, the region as a whole will lose as much as \$2,563,800. This is substantially larger than the tax revenue gain by North Haven. In other words, the net tax revenue loss to the region will be \$1,261,800. This is still a very conservative estimate because it does

take into consideration of long-run indirect effects of overall deterioration of the central city New Haven.

The income redistribution effect will be highly regressive, transferring incomes to the relatively higher income group from the lower income population of the region.

Employment Effect. Construction of the North Haven Mall will generate on the average 833 person-years of employment for the 3-year construction period. Additional "indirect" employment of up to 472 person-years may be created for the same 3-year period. Counterbalancing the temporary gain is the possibility of not redeveloping the New Haven CBD due to North Haven Mall, which may create potential loss (opportunity cost) of 285 person-years direct employment and additional 161 person-years "indirectly" created employment. The net effect will be the generation of 859 employment for the three-year period. Of these only 45 percent of the jobs are estimated to benefit the workers in the New Haven Trade Area.

The North Haven Mall, when fully operational, will generate 1,750 FTE (full-time equivalent) employment including managerial personnel. Of these, 150 FTE employment must be deducted because they are direct transfers from the two existing department stores to be relocated to the Mall. The net employment generation for the Town is therefore 1,600 FTE jobs.

On the debit side, the rest of regional community will witness the loss of 1,681 jobs from existing shopping facilities. New Haven will lose most with 687 jobs, and followed by Hamden - 443 jobs, Wallingford - 237 jobs, and Meriden - 151 jobs. The net regional employment effect would

be  $(1600 - 1681 = -81)$  an 81-job loss. This means that the operation of the North Haven Mall would not have any positive impact at all in creating new jobs in the region because it takes away jobs as many as it creates. In addition, the multiplier effects of retail trade jobs are considered nil because practically all of the retail trade employment is "service" or "non-basic" jobs. In other words, retail trade jobs are to a large extent considered as "growth-serving" industry rather than "growth-inducing" industry.

The income distribution effect is also highly regressive, transferring benefits from the relatively poor to the relatively rich. Jobs are lost mainly among the low-wage primary earners in the City whereas the jobs at the North Haven Mall are likely to be occupied by secondary wage-earners from households whose incomes are substantially higher than those who are likely to lose jobs.

Conclusion. Under the assumption of zero growth for shoppers goods demand, the North Haven Mall will fail both efficiency and equity criteria and diminish the wellbeing of regional community.

#### 5.4 Impacts Under Other Scenarios

Exhibit 5-3 has been prepared to compare the economic impacts of the North Haven Mall under different scenarios. In addition to the Zero Growth scenario, four additional alternative future projections are compared.

EXHIBIT 5 - 3 ECONOMIC IMPACT OF NORTH HAVEN MALL ON THE GREATER NEW HAVEN TRADE AREA UNDER VARIOUS SCENARIOS: AS OF 1985

| Scenario                         | Shoppers Goods Demand Forecasts |         | SALES IMPACT                           |  |   |  | FISCAL IMPACT                         |  |  |  | EMPLOYMENT IMPACT                      |                                 |  |
|----------------------------------|---------------------------------|---------|--|--|---|--|---------------------------------------|--|--|--|--|---------------------------------|--|
|                                  |                                 |         | (1)<br>GAFO<br>Sales<br>Loss<br>(\$MM) | (2)<br>% of<br>Total<br>GAFO<br>Sales<br>(%) | (3)<br>Total<br>Retail<br>Sales<br>Loss<br>(\$MM) | (4)<br>% of<br>Total<br>Retail<br>Sales<br>(%) | (5)<br>Tax<br>Base<br>Loss<br>(\$000) | (6)<br>% of<br>Net<br>Grand<br>List<br>(%) | (7)<br>Tax<br>Revenue<br>Loss<br>(\$000) | (8)<br>1978<br>Equal.<br>Mil<br>Rate<br>(\$) | (9)<br>%<br>Change<br>Tax<br>Rate<br>- | (10)<br>Employ-<br>ment<br>Loss | (11)<br>% of<br>Total<br>Retail<br>Emp.<br>(%) |
| I. Zero Growth                   |                                 |         |  |  |   |  |                                       |  |  |  |  |                                 |  |
| 2.5%                             | 1977                            | \$404.6 | N.H. CBD                               | -15.3  | -18.2   | -18.6  | *                                     | *  | *  | *  | *                                      | *                               | *  |
| 0%                               | 1985                            | 404.6   | New Haven                              | -25.9  | -19.4   | -31.4  | -27,761                               | -1.46                                      | -1,077.1                                 | 29.3   | +1.5                                   | -687                            | -8.7   |
| 12.5%                            | 1990                            | 404.6   | Region <sup>c</sup>                    | -73.6  | *   | -89.3  | -79,127                               | *  | -2,563.8                                 | *  | *                                      | -1,681                          | -6.5   |
|                                  |                                 |         | North Haven                            | +85.0  | *   | +114.8   | +85,381                               | *  | +1,302.0 <sup>a</sup>                    | 16.0   | -6.6                                   | +1,600 <sup>b</sup>             | +90.3  |
|                                  |                                 |         | Net Effect                             | +11.4  |   | +25.5  | +6,254                                |  | -1,261.8                                 |  |  | -81                             |  |
| II. Minimum Growth               |                                 |         |  |  |   |  |                                       |  |  |  |  |                                 |  |
| 2.5%                             | 1977                            | 404.6   | N.H. CBD                               | -14.4  | -17.1   | -17.5  | *                                     | *  | *  | *  | *                                      | *                               | *  |
| 0%                               | 1985                            | 409.1   | New Haven                              | -24.3  | -18.2   | -29.5  | -26,064                               | -1.37                                      | -1,011.2                                 | 29.3   | +1.4                                   | -645                            | -8.2   |
| 12.5%                            | 1990                            | 413.6   | Region <sup>c</sup>                    | -69.1  | *   | -83.8  | -74,289                               | *  | -2,407.0                                 | *  | *                                      | -1,578                          | -6.1   |
|                                  |                                 |         | North Haven                            | +85.0  | *   | +114.8   | +85,381                               | *  | +1,302.0 <sup>a</sup>                    | 16.0   | -6.6                                   | +1,600                          | *  |
|                                  |                                 |         | Net Effect                             | +15.9  |   | 31.0   | +11,092                               | *  | -1,105.0                                 |  |  | +22                             |  |
| III. Slow Growth                 |                                 |         |  |  |   |  |                                       |  |  |  |  |                                 |  |
| 2.5%                             | 1977                            | 404.6   | N.H. CBD                               | -10.9  | -13.0   | -13.3  | *                                     | *  | *  | *  | *                                      | *                               | *  |
| 0%                               | 1985                            | 425.6   | New Haven                              | -18.5  | -13.9   | -22.4  | -19,840                               | -1.04                                      | -769.8                                   | 29.3   | +1.1                                   | -491                            | -6.2   |
| 13.5%                            | 1990                            | 446.7   | Region <sup>c</sup>                    | -52.6  | *   | -63.8  | -56,550                               | *  | -1,832.3                                 | *  | *                                      | -1,201                          | -4.6   |
|                                  |                                 |         | North Haven                            | +85.0  | *   | +114.8   | +85,381                               | *  | +1,302.0                                 | 16.0   | -6.6                                   | +1,600                          | *  |
|                                  |                                 |         | Net Effect                             | +32.4  |   | 51.0   | +35,389                               |  | -317.8                                   |  |  | +538                            |  |
| IV. Moderate Growth <sup>d</sup> |                                 |         |  |  |   |  |                                       |  |  |  |  |                                 |  |
| 5.0%                             | 1977                            | 404.6   | N.H. CBD                               | -9.7   | -11.5   | -11.8  | *                                     | *  | *  | *  | *                                      | *                               | *  |
| 0%                               | 1985                            | 431.7   | New Haven                              | -16.4  | -12.3   | -19.8  | -17,539                               | .92  | -680.5                                   | 29.3   | + .9                                   | -434                            | -5.5   |
| 13.5%                            | 1990                            | 454.6   | Region <sup>c</sup>                    | -46.5  | *   | -56.4  | -49,992                               | *  | -1,619.8                                 | *  | *                                      | +1,062                          | -4.1   |
|                                  |                                 |         | North Haven                            | +85.0  | *   | +114.8   | +85,381                               | *  | +1,302.0                                 | 16.0   | -6.6                                   | +1,600                          | *  |
|                                  |                                 |         | Net Effect                             | +38.5  |   | 58.4   | +35,389                               |  | -317.8                                   |  |  | +538                            |  |
| V. Maximum Growth <sup>e</sup>   |                                 |         |  |  |   |  |                                       |  |  |  |  |                                 |  |
| 5.0%                             | 1977                            | 404.6   | N.H. CBD                               | -4.9   | -5.8  | -6.0   | *                                     | *  | *  | *  | *                                      | *                               | *  |
| 1.0%                             | 1985                            | 454.6   | New Haven                              | -8.3   | -6.2  | -10.1  | -8,902                                | -.47                                       | -345.4                                   | 29.3   | + .5                                   | -220                            | -2.8   |
| 13.5%                            | 1990                            | 504.6   | Region <sup>c</sup>                    | -23.6  | *   | -28.6  | -25,372                               | *  | -882.1                                   | *  | *                                      | -539                            | -2.1   |
|                                  |                                 |         | North Haven                            | +85.0  | *   | +114.8   | +85,381                               | *  | +1,302.0                                 | *  | *                                      | +1,600                          | *  |
|                                  |                                 |         | Net Effect                             | +61.4  |   | +86.2  | +60,009                               |  | +479.9                                   |  |  | +1,061                          |  |

a. Excludes \$360,000 consisting of \$110,000 for municipal services and \$250,000 for debt service of \$2.5 million capital improvement projects.

b. Excludes 150 full-time equivalent employment to be transferred from two department stores to be relocated.

c. Excluding North Haven.

d. This is the Gladstone's "Worst Case" scenario.

\* Data insignificant, not applicable, or not calculated.

e. This is the Gladstone's Scenario II.

Sales Impact. As the demand for shoppers goods is assumed to increase under different scenarios, the amount of transfer sales is expected to decrease. It decreases from \$73.6 million under the Zero-Growth Scenario to \$23.6 million under the Maximum Growth (Best Case) Scenario assumed by the Gladstone Report.

The impact on the New Haven CBD also decreases from \$15.3 million (18.2%) under the Zero-Growth Scenario to \$ 4.9 million (5.8%) under the Maximum-Growth Scenario. Under the Moderate-Growth Scenario (Gladstone's Worst-Case Scenario), the CBD is expected to lose \$9.7 million or 11.5% of its GAFO sales.

Our findings on the retail sales impact, although moderately higher than the Gladstone's Report, seem to be fairly in agreement. We do believe, however, what the Gladstone Report presents as "Worst Case" is not the worst case at all. For an impact study, Zero Growth or Minimum Growth scenarios are more accurate and suitable references. Gladstone has presented only two scenarios, both "high" estimates for the growth of shoppers goods demand in the region. This report gives a full spectrum showing all the economic possibilities ahead for the New Haven Region, the North Haven Mall's projected service area.

Fiscal Impact. In major part, the Gladstone Report fails to adequately measure the fiscal and employment impacts of the North Haven Mall. The most serious divergence of measurement between this report and Gladstone appears to be in the fiscal impact measurements.

Under the Zero-Growth Scenario, the region as a whole stands to lose \$1,261,800 of tax revenues net of tax revenues generated by the North Haven Mall. This is due to the fact that North Haven's equalized

tax rates (tax rate for market value of properties) are considerably lower than that of the City of New Haven and some other towns.

Such a net tax revenue loss situation persists even under the Moderate-Growth Scenario. It is, finally, under the Maximum-Growth Scenario, that there would be a positive net effect of tax revenue in the Region.

The City of New Haven would be seriously impacted under all scenarios. The loss of tax base is estimated at 1.46 percent of the net Grand List under the Zero-Growth Scenario to .92% under Moderate-Growth, and .47% under the Maximum-Growth Scenario.

These impacts include only the "direct" impacts arising from the diminished values of retail properties in the City of New Haven and the rest of the towns in the Trade Area excluding North Haven. Should we include the "indirect" effects of deteriorating residential properties in the City due to higher tax rate and reduced municipal services, the long-run effects would be much more serious.

In addition, although it will diminish somewhat under higher growth scenarios, the issue of inequity arising from regressive income redistribution effects persists.

We consider the fiscal impact crucial because it is tied to the dynamics of urban decay, and the North Haven Mall may turn out to be one of the serious cases of "Fiscal Mercantilism" as noted by Dick Netzer...letting the property taxation system make regional development decisions.

Employment Effect. Under the Zero-Growth and Minimum-Growth scenarios, there would be no net gain of jobs in the region due to the North Haven Mall; i.e., as many jobs are lost elsewhere as are created at the Mall. Even under calculations for Moderate-Growth and Maximum Growth scenarios, net job generation is 538 and 1,061 jobs respectively...far fewer than Gladstone's estimates.

It must be stressed that, unlike what the Gladstone Report stressed, there would be no significant multiplier effect arising from retail sales jobs growth. This is due to the fact that retail jobs are "growth-serving" or non-basic jobs and not "growth-inducing" or basic jobs. Accordingly, if the region is anxious to grow, it must attract "basic" industrial development be it in manufacturing, finance, business services, government, education, and research/development sectors.

The negative income-redistribution effect will continue to persist under all scenarios. However, under the Maximum-Growth Scenario, the number of those who are likely to lose jobs dwindles to 539.

### 5.5 Opportunity Costs

So far, the impacts are measured marginally or as the probable changes in the retail sales, tax base-revenues, and employment from the Trend-Line future. The North Haven Mall will undoubtedly have additional impact in the form of "opportunity costs" or lost opportunities, such as a successful New Haven CBD redevelopment, or the Hamden Plaza, among other possibilities. No attempt is made here to identify and measure them-- but the existence of the Rouse Plans clearly demonstrates that the North Haven Mall is not the only alternative for serving

the needs of the regional community when they become apparent.

#### 5.6 Beyond 1985

The critical period in the future would be two to three years after the completion of the Mall in North Haven. This is the period of readjustment for the rest of the region. Many businesses, particularly those close to North Haven, many of them "small businesses", will cease to exist. Accordingly, the hardships described in this report will be most severely felt in this period.

However, as the time passes and the area's demand for shoppers goods grows, if it does, some of the small businesses may be reestablished, and the severity of post-1985 impact may be eased to the extent that the shoppers goods demand increases. On the other hand, during the zero-growth, or very slow growth period, such respite and successful readjustments may not be anticipated. This is why the accurate projection of the future demand for shoppers goods are so critical in measuring the economic impact of the North Haven Mall.

#### 5.7 Conclusion: Urban Decay

Although "time may heal all wounds", many victims will not recover. Although high demand projection for shoppers goods may ease the severity of the hardships on the rest of the region, the North Haven Mall would hurt the City of New Haven under all scenarios.

The scar of the post-1985 period will have a permanent mark on the central city, New Haven. The deteriorating fiscal situation, declining municipal services which must result, and lost opportunities will feed itself to accelerate the vicious circle process of urban environmental decay referred to earlier. Suburban areas will become relatively more



attractive place to live (among others, lower taxes) than before, while the central city goes the opposite direction. Pull and push factors drive the more middle- and upper- income population to the suburban towns leaving only those who cannot purchase a house in the suburbs, out in the cold, with no opportunity to share the benefit at all. Thus, the vicious circle is complete.

**Phillips/Norwalk Report**

RETAIL MARKET IMPACT  
PROPOSED NORTH HAVEN MALL

NORTH HAVEN, CONNECTICUT

Prepared for:

CITY OF NEW HAVEN

March, 1982

PHILLIPS/NORWALK COMPANY

Real Estate Investment & Development Consultants

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## INTRODUCTION

The purpose of this memorandum report is to highlight our firm's research findings and conclusions concerning retail market impacts of the proposed 1.1 million square-foot North Haven Mall and, specifically, the effect of such a development upon future retail conditions in downtown New Haven.

This outline is organized in four parts:

Part I - is a critical examination of the methodology and results of Gladstone Associates' report prepared for Mall Properties, Inc. in August, 1981 entitled "North Haven Mall - Appendix L: Economics & Land Use".

Part II - determines the magnitude of market demand for additional department store representation in the New Haven SMSA and the scale and type of shopping center which would be most appropriate at the subject North Haven site.

Part III - analyzes the competitive impacts of the North Haven Mall, as proposed, upon downtown New Haven's retail community with particular emphasis upon the amount and composition of retail trade which will be diverted from the New Haven CBD to the new mall by the end of 1985 - the time at which the proposed complex would be fully operational.

Part IV - summarizes our findings and recommendations with respect to the mall's market feasibility and impact and concludes with our views as to whether the subject mall development is the most directly responsive, cost effective and least detrimental way of meeting the region's need for additional retail representation.

EXHIBIT 1

PROPOSED NORTH HAVEN MALL  
1985 SHOPPERS GOODS SALES IN 1981 DOLLARS  
(0% INCOME GROWTH)

|   | <u>GAFO</u><br><u>Floor Area(SF)</u> | <u>1977</u><br><u>Sales/SF</u> | <u>Sales Volume(000)</u><br><u>in 1977 Dollars</u> | <u>1981</u><br><u>Sales/SF</u> b/ | <u>Sales Volume(000)</u><br><u>in 1981 Dollars</u> |
|---|--------------------------------------|--------------------------------|--|-----------------------------------|--|
| Department Stores   | 575,000*                             | \$97                           | \$55,775   | \$135                             | \$77,625 c/  |
| Mall Shoppers<br>Good Stores<br>(at 74% of Total<br>Non-Dept.Store GLA) | 296,000*                             | \$121                          | 35,816   | \$168                             | 49,728   |
| Total Center  | 871,000                              | \$105                          | <u>\$91,591</u> a/                                 | \$146                             | <u>\$127,353</u>                                   |

\* 85% of Total Dept. Store GLA

\*\* Based Upon Typical Mall Store Floor Area Allocations in 32 Regional Malls Nationwide in which Sears is a Major Tenant; from Homart Development Company

a/ 7.2% or \$6,591,000 Greater than Proposed Mall Shoppers Goods Sales Estimated by Gladstone Associates for Mall Properties, Inc.

b/ Sales Growth GAFO from 1977 to 1981 Reported by U.S. Dept. of Commerce = 38.8%

c/ Represents 38.1% of Total SMSA Department Store Sales in 1981; U.S. Dept. of Commerce

PART I. CRITICAL EXAMINATION OF GLADSTONE ASSOCIATES REPORT

A. Composition and Sales Volume Forecast:

North Haven Mall

1. The proposed mall will contain 676,000 square feet (GLA) <sup>a/</sup> in four department stores (i.e. G.Fox, Macy's, Sears, and J.C. Penney) plus 440,000 square feet of mall tenant area. Of this total, Gladstone assumes only 817,000 square feet would be devoted to shoppers-goods retail which would generate approximately \$85 million in annual sales in constant 1977 dollars. Their percentage of GAFO (shoppers-goods) space was determined by reducing department store GAFO by 15% to 575,000 square feet - a selective, "one-time" adjustment not applied anywhere else in the report which purportedly deals with "store types" rather than "merchandise lines". This adjustment was followed by allocating 55% of "mall shop" GLA to shoppers goods based on their review of the tenant compositions of two regional shopping centers currently operated by Mall Properties, Inc.
2. Our firm analyzed the tenant composition of mall shop GLA <sup>b/</sup> for more than 30 comparably-sized regional malls operated nationwide by Homart Development, a division of Sears, and other regional malls in metropolitan areas such as Cumberland Mall in Atlanta, a four department store complex anchored by Sears, Penney, Davison's (a Macy's division) and Rich's (a division of Federated Department Stores). It was determined that an average of 74% of mall shop GLA in those centers was devoted to shoppers goods - a ratio which applied to the North Haven complex yields 296,000 square feet of mall shoppers goods space (plus the 575,000 square feet of department store GAFO) or 871,000 square feet GAFO total as shown in Exhibit 1. Utilizing Gladstone sales productivity estimates for the increased GAFO space produces total 1977 mall GAFO sales of \$91.6 million or \$6.6 million more than projected in the Gladstone report. In 1981 dollars, total revised North Haven Mall shoppers goods sales amount to \$127.35 million or \$146 average sales per square foot of shoppers goods GLA.

a/ GLA - gross leasable area

b/ Mall Shop GLA - tenant floor area in a shopping center exclusive of that devoted to department store space.

## B. Methodology Critique

### o. The Use of 5 Year-Old Data

The use and reliance upon 1977 retail sales data ignores significant changes which may have occurred in regional retail supply and performance during the past 5 years. Further, presentation of market data and sales transfer in constant 1977 dollars psychologically mitigates the magnitude of the mall's impact for those accustomed to thinking and dealing in today's dollars.

### o. Shoppers Goods Purchasing Power

The Gladstone Technical Memorandum uses a constant 13.5% of per capita income factor to determine per capita shoppers-goods spending potential when it is well-known by department stores and other retail trade authorities that the proportion of spending for GAFO varies with income as set forth in numerous consumer expenditure surveys including those of the Bureau of Labor Statistics (i.e. persons of higher income spend relatively less of their income for shoppers goods than persons of lower income).

### o. Regional Sales Flows

As described in Section III, D. of the Gladstone report, a detailed and comprehensive distribution of regional sales flows by origin and destination for 1977 were made - the so-called "baseline condition" which would occur were the North Haven Mall not built. A sales distribution matrix was developed with 504 cells including 18 sources of origin and 28 retail destinations within and outside the region.

As cited above, their determination of GAFO purchasing power by municipality contains inaccuracies because of the use of a constant 13.5% spending/income ratio; however, a more significant shortcoming is their geographic distribution of shoppers-goods sales based upon Connecticut Department of Transportation short-purpose trip information estimated "synthetically" on the basis of population and economic activity between sub-centers and not designed to be used exclusively for predicting shopping patterns. The DOT data was apparently derived from statewide home interview data gathered in 1964! Even if up-to-date daily trip data for shopping alone were available, the frequency of short-purpose trips for convenience purchases is much higher than for shoppers goods - a factor which would bias the allocation of sales flows toward smaller, community shopping areas with supermarkets, drug stores, branch banks, and Post Office branches at the expense of larger, regional centers with a high concentration



of shoppers goods stores.

Adjustments in sales distributions were made based on shoppers surveys taken at Miracle Mile (Hamden), Meriden Square and Trumbull Shopping Park by Gladstone Associates along with a 1977 downtown New Haven shopper survey conducted by Halcyon, Ltd. and the New Haven Chamber of Commerce. This means that only 4 of the 28 centers included in the analysis were directly surveyed by the consultants. Those surveys which were conducted by Gladstone in the Spring of 1980 each had only 137 to 150 respondents and the days and time of day the surveys were conducted were not specified. Obviously, conclusions drawn from a survey taken on a Friday evening or Saturday afternoon would differ significantly from those obtained on a weekday morning.

In our professional judgement, the sales allocation methodology followed in the Gladstone report should have included:

a) statistically-valid shopper surveys from the other 24 centers to which sales were allocated; b) analysis of the distribution of charge account customers at existing branches of the mall's prospective anchor chains, namely Macy's (New Haven CBD), Sears (Hamden and West Haven), Penney's (Meriden Square, West Farms and Trumbull); c) questionnaires distributed to a representative sample of specialty retailers in each of the destination centers to determine their geographic sales draw; and d) license plate surveys at the respective destination centers to cross-check against the data obtained in the preceding steps.

#### o Mall Sales Forecast

Total mall sales were derived for 1985 and 1990 under 0% and 1% income growth scenarios by first estimating the amount of sales outflow to distant centers which could be recaptured by the proposed center (e.g. at 0% income growth in 1985 there will be \$40,571,000 flowing from the study region to "unidentified" outside centers of which the mall will divert between \$23,119,000 and \$25,147,000). The basis for any recapture diversion estimate is highly subjective at best but when the source of the diversion is unknown how can any estimate of recapture be considered reliable?

The above sales forecasting procedure is rarely, if ever, used in determining sales opportunities by department stores or shopping center developers because of the inherent uncertainties in measuring interregional sales flows and "leakage" let alone determining the proportion of all sales outflows to be recaptured by a single development. Instead, it is customary to determine

the primary and secondary trade area which will be served by a proposed mall and then to calculate the center's capture rates of total GAFO sales potential within the subsectors of that trade area given factors of accessibility, strength of local competition, demographic character of the residential population, etc. After determining trade area-derived sales, an additional inflow factor of 15% to 20% of total volume is typically used for sales forecasting and development planning purposes.

The Gladstone report does not provide a conventional trade area market share analysis. Therefore, it must be assumed that North Haven Mall sales levels were determined, not through a careful analysis of market demand, but on the basis of center size and composition - a "given" which does not correspond with the needs and potentials of the proposed mall's primary north/east suburban market area as will be demonstrated in Part II of this report.

#### o Sales Transfer

The central issue to be considered in the evaluation of mall impact is that of transfer sales - to what degree will the proposed development cause a transfer (i.e. loss) of sales at existing retail districts and shopping centers in the region. Further, given the magnitude of transfer what direct and secondary dislocations will occur in the region's retail supply. Ironically, it is in this crucial area of sales transfer that the Gladstone report is most deficient.

Their total mall sales transfer estimate is derived simply on a residual basis after subtracting leakage recapture and improved inflows from total mall sales as given. Thus, the determination of total mall sales transfer is solely dependent upon the questionable methodology used in the tabulation of recapture and improved sales inflows.

However, the greatest flaw lies in their allocation of transfer in direct proportion to the baseline sales of the respective centers with total disregard for the origin of sales in relation to the location of North Haven Mall, the comparative size and attractiveness of the respective existing centers vis-a-vis the new mall, and the direct transfer which will undeniably take place as a result of the closure and relocation of Sears-Hamden and Penney-North Haven in favor of new full-line units at the North Haven Mall. The application of a fixed ratio to calculate transfer at the latter stages of a very lengthy and tedious dissertation without any consideration of the critical variables

## EXHIBIT 2

PROPOSED NORTH HAVEN MALL  
SOURCES OF REVENUE & MARKET SHARE DIFFERENTIALS  
BY MUNICIPALITY (in 1981 dollars)\*  
FROM GLADSTONE ASSOCIATES REPORT

| <u>Source of Sales</u>                          | <u>Recapture/Inflow (000)</u><br><u>(at 0% Income Growth)</u> | <u>Transfer (000)</u><br><u>(at 0% Income Growth)</u> | <u>Mall Volume</u><br><u>(000)</u> | <u>Total GAFO***</u><br><u>Potential (000)</u> | <u>Mall Market Share</u><br><u>of GAFO Potential</u> |
|---|---|---|------------------------------------|--|--|
| North Haven                                     | \$ 4,251  | \$ 2,448  | \$ 6,699                           | \$ 28,103                                      | 23.8%  |
| New Haven                                       | 10,921  | 10,557  | 21,478                             | 124,245  | 17.3%  |
| Wallingford                                     | 8,790   | 2,977   | 11,767                             | 43,441   | 27.1%  |
| Hamden  | 7,798   | 5,072   | 12,870                             | 61,149   | 21.0%  |
| North Branford                                  | 4,991   | 680   | 5,671                              | 13,091   | 43.3%  |
| East Haven                                      | 1,457   | 2,156   | 3,613                              | 26,106   | 13.8%  |
| Bethany   | 682   | 530   | 1,212                              | 5,936  | 20.4%  |
| Woodbridge                                      | 1,628   | 1,502   | 3,130                              | 12,596   | 24.8%  |
| Orange  | 1,809   | 1,706   | 3,515                              | 19,295   | 18.2%  |
| West Haven                                      | 4,032   | 4,543   | 8,575                              | 57,823   | 14.8%  |
| Branford  | 1,834   | 2,784   | 4,618                              | 30,394   | 15.2%  |
| Guilford  | 3,001   | 1,967   | 4,968                              | 22,622   | 22.0%  |
| Madison   | 5,405   | 1,241   | 6,646                              | 18,421   | 36.1%  |
| Clinton   | 1,865   | 679   | 2,544                              | 12,764   | 19.9%  |
| Subtotal SMSA                                   | \$58,464  | \$38,842  | \$97,306                           | \$475,986                                      | 20.4%  |
| Durham  | \$ 2,533  | \$ 50   | \$ 2,583                           | \$ 5,882                                       | 43.9%  |
| Middlefield                                     | 2,322   | 14  | 2,336                              | 4,578  | 51.0%  |
| Meriden   | 8,536   | 450   | 8,986                              | 62,741   | 14.3%  |
| Cheshire  | 9,116   | 994   | 10,110                             | 27,285   | 37.1%  |
| Subtotal  | \$22,507  | \$ 1,508  | \$24,015                           | \$100,486                                      | 23.9%  |
| Grand Total from Region                         | \$80,971  | \$40,350  | \$121,321                          | \$576,472                                      | 21.0%  |
| Plus Additional Sales                           |   |   | 6,032**                            |  |  |
| Total Shoppers Goods Volume<br>(Revised Figure) |   |   | \$127,353                          |  | 22.1%****  |

\* from Gladstone report increased by 38.8% to 1981 dollars in accordance with 1977-1981 growth in GAF sales, U.S., reported by U.S. Department of Commerce

\*\* additional sales not allocated as a result of increased mall shoppers goods GLA to 871,000 SF

\*\*\* Phillips/Norwalk Company GAFO Spending Potential (see Exhibit 3)

\*\*\*\* ratio of revised mall shoppers goods sales to regional GAP potential

of travel distance from North Haven, accessibility, and type and variety of retail services leads the reader to one of two conclusions: a) extenuating circumstances prevented the consultants from preparing a series of reasonable transfer estimates using some type of gravity model or an acceptable alternative or b) the information provided in the Technical Memorandum (specifically regarding sales transfer) was designed and presented in such a way so as to "spread" the mall's transfer impact among existing centers and thereby disguise the amount of damage which will be done to the mall's most direct competitors, namely downtown New Haven, Hamden's Miracle Mile, and Meriden Square.

In short, the use of the Gladstone transfer forecasts in support of the application would refute two basic caveats of the retail industry:

- 1) the principle that states that a store or shopping center's drawing power is inversely related to the distance from that store/center one must travel; and
- 2) the principle of intervening opportunity which, in effect, says that a customer will be highly unlikely to pass by a new "intervening regional shopping center" to reach a former destination shopping area of similar or lesser size and quality.

#### C. Technical Results Critique

The deficiencies of the Gladstone methodology can be best seen through closer examination of some of their results:

##### 1. Market Share Discrepancies

If one totals mall shoppers-goods sales from recapture, inflow, and transfer by municipality and compares these totals against overall shoppers-goods spending potential, some alarming market share discrepancies arise - as shown clearly in Exhibit 2.\*

- a) it is interesting that the mall's highest market share is in Middlefield (51%) which lies within easy reach of Meriden Square.
- b) also it is revealing that 43.3% of all shoppers-goods potential from North Branford will accrue to the mall as compared with only a 23.8% capture rate in North Haven itself.

\* Based upon Gladstone mall sales estimates (1985 at 0% income growth) updated to 1981 dollars. -5-

- c) why will North Haven Mall be so attractive to shoppers from Madison (36.1%) when Guilford residents, who live closer, will spend only 22% of their GAFO purchasing power at the mall?
- d) the bias toward mall sales generation from outlying municipalities in the Gladstone report is readily apparent from Exhibit 2 in that the center's market share in the northern outlying region of Meriden/Cheshire/Durham/Middlefield is actually higher (23.9%) than in the New Haven SMSA (20.4%) despite the fact that there is a modern G. Fox/Penney-anchored shopping center called Meriden Square which, most observers believe, is quite adequate in providing for the shopping needs of the Meriden/Cheshire/Durham/Middlefield market.

In short, the capture rate discrepancies resulting from the use of Gladstone's own numbers raise serious questions about the validity of their entire approach and many of their technical judgements. In our judgement, their mall sales volume estimates by municipality of origin are highly distorted as can be seen through comparison with GAFO expenditure potentials for the respective municipalities. These distortions suggest to us that the applicant's report, in its present form is not a suitable basis for development planning nor determination of public policy.

## 2. Mall Recapture/Inflow Gains

On page 222 of the Gladstone report, at 0% income growth in 1985, it is predicted that the North Haven Mall will achieve between 47.3% and 51.3% of its total sales from two primary sources: 1) West Farms Mall in the Hartford area (45 minutes to one hour's drive from New Haven at peak shopping periods) and 2) unspecified outside centers presumably situated more than an hour's drive from New Haven (i.e. White Plains, New York City, Boston, etc.).

Updating Gladstone's North Haven mall sales diversion estimates from West Farms Mall to 1981 yields a total volume range from this source of between \$20.1 million and \$21.4 million or more than double North Haven Mall's anticipated diversion from Meriden Square which, like West Farms, is anchored by G.Fox and J.C. Penney.

In March, 1979 our firm conducted a customer survey at West Farms Mall for a private retail client between Thursday morning and Saturday afternoon. Of 375 shoppers interviewed, only 8.5% resided in the New Haven SMSA. If this sample is representative of the current drawing power of West Farms Mall from the New Haven region, it is our conclusion that no more than \$13 million

(in 1981 dollar terms ) GAFO volume at West Farms mall can be attributed to purchases of New Haven SMSA residents, or \$7 million to \$8.5 million less than that which Gladstone expects North Haven Mall to actually divert from West Farms via leakage recapture and sales inflow gains.

Since sales from West Farms Mall and other unspecified shopping centers outside the region will be so important to the overall success of North Haven Mall, according to the Gladstone report, we believe it would be prudent for them to conduct further research as to the destination and rationale behind their estimated sales outflows before making assumptions as to how much the subject development will be able to divert.

Further, a mall's ability to recapture leakage and induce inflows is directly related to its probable transfer impact upon local competition and not inversely related as reflected in the Gladstone methodology.

### 3. Transfer Estimates

Although the calculation of transfer in a metropolitan area is not an exact science, the estimates made in the Gladstone report totally disregard basic principles of shopper behaviour.

Here are a few examples from their 0% income growth, 1985 scenario in 1977 dollars taken directly from their report:

- a) residents of North Haven represent \$5.95 million GAFO baseline sales for the New Haven CBD - when North Haven Mall opens in their backyard with four anchors including a full-line Macy's, 90.2% of their sales will continue to go to downtown New Haven with a mere 9.8% or \$583,000 transferring to the new mall.
- b) West Haven residents which must travel past the New Haven CBD to reach the new mall will transfer exactly the same proportion of their CBD expenditures to the mall as those living in North Haven.
- c) North Branford residents which Gladstone says now spend \$1.1 million on Hamden's Magic Mile will only divert 9.77% of this total to North Haven Mall - the rest presumably will drive past the 1.1 million square-foot enclosed mall and continue via congested local roads to Hamden's 25 year-old strip shopping plazas whose leading department store - Sears - will have vacated their premises to open at the new mall.

- d) those North Branford residents which now shop at Meriden Square, a modern enclosed mall with G. Fox and J.C. Penney, will be much less loyal than their neighbors who shop Magic Mile according to the Technical Memorandum as they will transfer 87.5% of their patronage to North Haven Mall.
- e) aggregate sales transfer from Magic Mile to North Haven Mall will total \$4,294,000 (1977 dollars) or \$5,960,072 in 1981 dollar terms according to Gladstone - an estimate which apparently disregards the fact that Sears-Hamden will close and thus transfer practically all of its estimated \$15 million current volume from Magic Mile to the new complex.

In addition to the above, the Gladstone report predicts that cumulative transfer to the new mall will decline between 1985 and 1990 (from \$29 million to \$26.4 million in constant 1977 dollars under the 0% income growth condition and from \$24.4 million in 1985 to \$18.4 million in 1990 at 1% income growth). However, it is common for new super-regional malls to experience real sales growth of 10% or more per annum during their initial five years of operation; therefore, in a metro region with negligible population growth such as New Haven, there is little doubt that cumulative transfer to the new mall will increase in constant dollar terms between 1985 and 1990 due to a combination of increasing new mall acceptance and the abandonment of older, existing retail operations by those unable to compete effectively with the new center.

Finally, in the Gladstone report there was no attempt to discuss the variable impacts of the mall upon the existing retail supply and the fact that a loss of sales in the range of 15% to 20% for certain retailers is enough to put them out of business. Obviously, off-price factory outlet stores in the Orange area and discount department stores would experience less erosion of their customer base than would Chapel Square Mall in downtown New Haven, for example, with its array of medium-priced specialty stores directly competitive with the types of goods and retail services to be offered at the new mall.

#### D. Alternatives to North Haven Mall

In Appendix Q - Alternatives Assessment, Gladstone Associates contends that no single, alternative site is available for provision of comparable retail services to those of the proposed North Haven Mall. Instead, we believe that an assessment of alternatives must first address the key issue of whether it is in the public interest for a mall comparable in size to North Haven

Mall to be constructed in the New Haven metropolitan region irrespective of location.

Would it not be more in the public interest to permit development of a two department store mall in North Haven designed to serve its primary north suburban market area - a strategy which would give downtown New Haven a greater opportunity to attract a department store tenant for the vacant Malley building and, at the same time, provide for future regional shopping center development in the Orange-Milford area?

Gladstone asserts that none of the four North Haven Mall department store candidates consider downtown sites as part of their corporate strategies; however, Macy's and Penney's have just opened new, full-line units in Stamford Town Center in the heart of downtown and Saks Fifth Avenue will follow at a later date. D.M. Read, a division of Allied Stores, recently took over the former Gimbels store in Crossroads Mall in downtown Bridgeport where they will serve as Sears co-anchor.

With these examples of recent commitments to downtown locations in the southern Connecticut region on the part of leading department store chains, it is unclear as to why Gladstone Associates would "write-off" downtown New Haven as a viable, major retail alternative.

### Conclusion

For reasons cited above and others not cited in the text, it is our opinion that additional information must be provided concerning the public need of the proposed facility and alternative methods used to measure its potential impact from those employed by the applicant's economic consultants.



EXHIBIT 3SHOPPERS GOODS SPENDING POTENTIAL  
NEW HAVEN SMSA

| <u>Municipality</u>    |                    | <u>1981</u>            |                       | <u>1981</u>               | <u>1981</u> |
|------------------------|--------------------|------------------------|-----------------------|---------------------------|-------------|
| <u>SMSA:</u>           | <u>Population*</u> | <u>Mean Per Capita</u> | <u>% to GAFO***</u>   | <u>Total GAFO Potent.</u> |             |
|                        |                    | <u>Income**</u>        |                       | <u>(000)</u>              |             |
| North Haven            | 22,007             | \$ 9,780               | \$1,277 (13.06%)      | \$ 28,103                 |             |
| New Haven              | 121,215            | 7,272                  | 1,025 (14.10%)        | 124,245                   |             |
| Wallingford            | 36,814             | 8,755                  | 1,180 (13.48%)        | 43,441                    |             |
| Hamden                 | 50,081             | 9,203                  | 1,221 (13.27%)        | 61,149                    |             |
| North Branford         | 11,554             | 8,277                  | 1,133 (13.69%)        | 13,091                    |             |
| East Haven             | 24,863             | 7,444                  | 1,050 (14.10%)        | 26,106                    |             |
| Bethany                | 4,330              | 11,038                 | 1,371 (12.42%)        | 5,936                     |             |
| Woodbridge             | 7,761              | 16,308                 | 1,623 ( 9.95%)        | 12,596                    |             |
| Orange                 | 13,153             | 12,276                 | 1,467 (11.95%)        | 19,295                    |             |
| West Haven             | 52,614             | 8,027                  | 1,099 (13.69%)        | 57,823                    |             |
| Branford               | 23,308             | 9,982                  | 1,304 (13.06%)        | 30,394                    |             |
| Guilford               | 17,229             | 10,218                 | 1,313 (12.85%)        | 22,622                    |             |
| Madison                | 13,955             | 10,271                 | 1,320 (12.85%)        | 18,421                    |             |
| Clinton                | <u>11,157</u>      | 8,358                  | <u>1,144</u> (13.69%) | <u>12,764</u>             |             |
| Subtotal SMSA          | <u>410,041</u>     |                        | \$1,161               | <u>\$475,986</u>          |             |
| <u>Other Non-SMSA:</u> |                    |                        |                       |                           |             |
| Durham                 | 4,977              | \$ 8,772               | \$1,182 (13.48%)      | \$ 5,882                  |             |
| Middlefield            | 3,796              | 8,950                  | 1,206 (13.48%)        | 4,578                     |             |
| Meriden                | 56,677             | 8,087                  | 1,107 (13.69%)        | 62,741                    |             |
| Cheshire               | <u>21,285</u>      | 9,835                  | <u>1,284</u> (13.06%) | <u>27,285</u>             |             |
| Subtotal Other         | 86,735             |                        | \$1,159               | \$100,486                 |             |
| Total                  | 496,776            |                        | \$1,160               | \$576,472                 |             |

\* From 1980 Census Final Count Minus Those Living in Group Quarters Unable to Patronize Retail Establishments (e.g. Elderly in Hospitals or Nursing Homes, Prison Inmates, Etc.)

\*\* From 1977 Dept. of Commerce P-25 Series Updated to 1981 in Accordance with Mean Per Capita Income Growth, 1977 to 1981, of 44.52%.

\*\*\* From Bureau of Labor Statistics Survey of Consumer Expenditures and Census of Retail Trade

PART II. MARKET DEMAND ANALYSIS:  
PROPOSED NORTH HAVEN MALL

Shoppers Goods Expenditure Potential  
New Haven SMSA

The first step in the evaluation of market demand for the proposed mall involves determination of New Haven SMSA overall shoppers goods expenditure potential.

The 1980 final census count for each municipality in the New Haven SMSA showed a total population of 417,598 - or a slight 1.5% increase from the 1970 SMSA population which totalled 411,287. The 1980 population by municipality was adjusted to exclude persons residing in group quarters who are not in a position to patronize retail establishments.\* This resulted in a reduction of 7,557 persons from the overall population statistics and yielded an adjusted 1980 SMSA population of 410,041 as shown in Exhibit 3.

Mean per capita income levels for each municipality were derived for 1977 from the U.S. Department of Commerce, P-25 Population and Income report series and updated to 1981 in accordance with national average income growth during the 1977-1981 period of 44.52%. This procedure assumes no significant income shifts within the SMSA since 1977. However, it may be necessary to modify these income estimates when 1980 Census income figures are released in the latter part of 1982.

Per capita GAFO expenditure potentials of residents of the various municipalities in the SMSA were determined on the basis of shoppers goods spending elasticities by income level as developed by the Bureau of Labor Statistics, Survey of Consumer Expenditures and updated to reflect GAFO sales reported in the 1977 Census of Retail Trade by Phillips/Norwalk Company. As shown in Exhibit 3, per capita GAFO spending potentials as a percentage of income will vary from 9.95% in affluent Woodbridge to 14.1% in New Haven and East Haven.

\* i.e. elderly and other individuals in nursing homes; hospitals; prisons; etc.

EXHIBIT 4

NEW HAVEN SMSA  
DEPARTMENT STORE REQUIREMENTS  
(in '000 of 1981 dollars)

Current Status (as of 12/81):

|  |                            |
|--|----------------------------|
| Total GAFO Spending Potential<br>New Haven SMSA  | \$475,986                  |
| SMSA Department Store Sales<br>- Dept. Store Share of GAFO Potential                           | \$204,930 a/<br>43.1%      |
| Department Store Volume Potential<br>at 50% Share of Total GAFO<br>(Supply Equilibrium Status) | \$237,993 b/               |
| (11) <u>Additional Dept.Store Sales Potential<br/>at 50% Share of Total GAFO</u>               | <u>\$33,063</u>            |
| <u>Incremental Dept.Store Space Requirements</u><br>at \$135 Average Sales per Sq.Ft.          | <u>244,911</u> Square Feet |

a/ U.S. Dept. of Commerce, Monthly Retail Trade (Dec.1981)  
Includes 22 Conventional & Discount Dept. Stores in  
Operation Sales Increase from 1980 Reported as 5.3% in  
Current Dollars

b/ Typical Dept./Disct. Store Aggregate Share of GAFO  
Potential in Metropolitan Areas with Representative  
Assortment of General Merchandise and Specialty  
Retail Uses.

Revised Status with Changes in Department Store Supply

|   |                            |
|---|----------------------------|
| Additional Dept.Store Sales Potential<br>(as of 12/81)                            | \$33,063                   |
| Plus Malley's Sales Loss as<br>Result of Closing CBD Store                        | 13,000                     |
| Revised Dept.Store Sales Potential  | \$46,063                   |
| Anticipated Supply Changes:   |                            |
| - Reoccupancy of Malley Store<br>by Major Dept. Store                             | 20,000                     |
| - Closure of Sears-Hamden<br>& Penney-North Haven                                 | (20,000)                   |
| Amount Available to New Mall<br>Department Stores at<br>Supply Equilibrium Status | \$46,063                   |
| Projected North Haven Mall<br>Dept. Store Volume                                  | \$77,625                   |
| <u>Excess Dept. Store Volume</u><br>After North Haven Mall (1985)                 | <u>\$31,562</u>            |
| <u>Excess Dept. Store Space</u><br>at \$135 Average Sales per Sq.Ft.(1985)        | <u>233,793</u> Square Feet |

Total shoppers goods expenditure potential in the SMSA in 1981 amounted to approximately \$476 million as derived from multiplying population and per capita GAFO expenditures by municipality under the assumption of constant population from 1980 to 1981.

The \$476 million figure represents total GAFO "potential" of the residential population available to all retailers regardless of location. In regions with sales outflow obviously the total demand figure will exceed actual GAFO sales of stores within that region.

In addition to SMSA shoppers goods potential, Exhibit 3 also determines total GAFO potential of non-SMSA communities (i.e. Durham, Middlefield, Meriden, and Cheshire) which were used in Exhibit 2 for market share analysis of Gladstone Associates' North Haven Mall sales projections. Total GAFO potential in these four communities equals approximately \$100.5 million or an average of \$1,159 per capita.

#### Additional Department Store Requirements New Haven SMSA

For the year ending December, 1981 there were 22 general merchandise stores operating within the SMSA (including conventional and discount department stores). These stores achieved sales amounting to \$204.9 million or 43.1% of total GAFO spending potential available from SMSA residents. In 1981, total SMSA department store sales had increased by 5.3% over 1980 in current dollars thus lagging behind the rate of inflation for the period.

Typically, in a metropolitan region with a full complement of department stores and discount department stores, the overall department store share of GAFO potential approximates 50% - a supply equilibrium situation which, if applied to the New Haven SMSA, would have produced combined department store volume of approximately \$238 million in 1981.

Based upon the above comparison, it is concluded that there was a \$33.1 million shortfall in department store sales in the New Haven SMSA as of January, 1982 which would indicate a need for 244,911 square feet of net additional department store space in this market assuming an average productivity level of \$135 sales per square foot GLA (see Exhibit 4).

Since Malley's in downtown New Haven recently closed its 220,000 square-foot facility in which they achieved estimated sales of \$13 million during 1981, this reduction in department store supply increases the current SMSA incremental department store requirement

EXHIBIT 5

PROPOSED NORTH HAVEN MALL  
1985 MARKET SHARE FORECAST  
(in 1981 Dollars at 0% Income Growth)

| I. | <u>PRIMARY TRADE AREA</u>       | <u>Per Capita</u>     | <u>Population*</u> | <u>Total GAFO</u>      | <u>Mall Capture</u> | <u>Mall GAFO Sales (000)</u> | <u>% of Projected</u>   |
|----|---------------------------------|-----------------------|--------------------|------------------------|---------------------|------------------------------|-------------------------|
|    |                                 | <u>GAFO Potential</u> |                    | <u>Potential (000)</u> | <u>Rate</u>         |                              | <u>Mall GAFO Sales*</u> |
|    | North Haven                     | \$1,277               | 24,250             | \$ 30,903              | 38%                 | \$11,743                     |                         |
|    | Hamden                          | 1,221                 | 51,100             | 62,393                 | 35%                 | 21,838                       |                         |
|    | North Branford                  | 1,133                 | 12,100             | 13,709                 | 33%                 | 4,524                        |                         |
|    | Wallingford                     | 1,180                 | 39,500             | 46,610                 | 30%                 | 13,983                       |                         |
|    | Cheshire                        | 1,284                 | 24,500             | 31,458                 | 25%                 | 7,865                        |                         |
|    | Bethany                         | <u>1,371</u>          | <u>4,650</u>       | <u>6,375</u>           | <u>25%</u>          | <u>1,594</u>                 |                         |
|    | Total Primary Zone              | \$1,226               | 156,100            | \$191,448              | 32.1%               | \$61,547                     | <u>48.3%*</u>           |
|    |                                 |                       |                    |                        |                     |                              |                         |
|    | <u>II. SECONDARY TRADE AREA</u> |                       |                    |                        |                     |                              |                         |
|    | Woodbridge                      | \$1,623               | 8,700              | \$ 14,120              | 22%                 | \$ 3,106                     |                         |
|    | East Haven                      | 1,050                 | 24,600             | 25,830                 | 17%                 | 4,391                        |                         |
|    | Branford                        | 1,304                 | 22,940             | 29,914                 | 16%                 | 4,786                        |                         |
|    | Guilford                        | 1,313                 | 17,520             | 23,004                 | 15%                 | 3,451                        |                         |
|    | Madison                         | 1,320                 | 14,850             | 19,602                 | 14%                 | 2,744                        |                         |
|    | Durham                          | <u>1,182</u>          | <u>5,720</u>       | <u>6,761</u>           | <u>22%</u>          | <u>1,487</u>                 |                         |
|    | Total Secondary Zone            | \$1,264               | 94,330             | \$119,231              | 16.7%               | \$19,965                     | 15.7%*                  |
|    |                                 |                       |                    |                        |                     |                              |                         |
|    | <u>III. TOTAL TRADE AREA</u>    | \$1,241               | 250,430            | \$310,679              | 26.2%               | \$81,512                     | 64.0%*                  |

\* from Gladstone Estimates:

Dept. Stores      \$ 77,625,000 at \$135/SF  
Mall GAFO Shops      49,728,000 at \$168/SF

Total Mall GAFO      \$127,353,000

(12)

to \$46.1 million - combined volume level which would support 341,481 square feet of department store space at \$135 per foot. However, it should be noted that efforts are being made at this time to attract a major department store to reoccupy the Malley building. Assuming that these efforts are successful, a well-managed department store at that location should be able to exceed Malley's 1981 volume by at least 50% (i.e. \$20 million annual sales). Thus, department store reuse of the Malley space would effectively reduce excess regional department store demand to the \$26.1 million level in constant 1981 dollars.

The four department stores slated for development at North Haven Mall will generate estimated combined sales of \$77.6 million in 1985 (in 1981 dollars at 0% income growth). With the relocation of Sears-Hamden and Penney-North Haven to the new mall, approximately \$20 million in department store volume will be transferred to the mall from these two sources. Therefore, net additional department store volume at North Haven Mall in 1985 will amount to \$57.6 million (in constant 1981 dollars). Therefore, even if the above Sears and Penney stores remain vacant or are converted to non-department store use, the construction of North Haven Mall will result in "excess" department store capacity of \$31.5 million or 233,793 square feet in the New Haven SMSA in 1985.

Under these conditions and with limited population growth expected in the SMSA through 1985, the four department stores at North Haven Mall must derive 40.6% of their combined sales volume either at the expense of existing department/discount stores throughout the region or in the form of improved sales inflows from outlying parts of the state - and this excludes any real sales growth by existing competitors or the construction of additional department store/discount store space in the SMSA over the next three years.

#### North Haven Mall Market Share Forecast

Another method typically used in determining mall development opportunity at a given location is to forecast its share of total GAFO potential from its primary trade area.

As shown in Exhibit 5, for planning purposes the primary geographic market area to be served by North Haven Mall is defined as consisting of six north suburban municipalities - namely, North Haven, Hamden, North Branford, Wallingford, Cheshire, and Bethany. Together, these municipalities represent \$191.4 million in total GAFO potential in constant 1981 dollars. In such an area, it is expected that the mall's capture rates will vary between 25% and 38% depending upon

distance, strength of local competition, and the availability and quality of alternative shopping centers outside the immediate trade area. Overall, it is estimated that the new mall would capture 32.1% of all GAFO potential within its primary market or \$61.5 million in total shoppers goods sales.

Since projected mall sales, from the Gladstone report, will amount to \$127.3 million in 1985 (at 0% income growth in 1981 dollars), only 48.3% of total volume at North Haven Mall will be derived from its primary trade area. Thus, if public need for the complex were defined strictly upon an ability to accommodate the shopping needs of the north/northeast suburbs of New Haven, the scale of the mall would have to be cut in half.

If a secondary trade area for the proposed mall is defined to encompass a wider, outlying area (including Woodbridge, East Haven, Branford, Guilford, Madison, and Durham), the mall's estimated capture rate in this zone equals 16.7% of \$119.2 million for an additional \$20 million as shown in Exhibit 5.

Even with the addition of sales from the above secondary zone, the percentage of total mall volume from its trade area amounts to only 64%. Viewed in this perspective, North Haven Mall could be regarded as having 1985 volume capacity of \$46.9 million over and above that which would be required if it were designed to serve a generously-defined suburban trade area.

#### Conclusions:

##### Proposed Mall Demand & Supportable Scale of Development

As consultants to major shopping center developers nationwide and leading department stores including May Department Stores, J.C. Penney, and Sears (Homart Development Division), we recognize that a new mall development in suburban New Haven would be welcomed by many since the New Haven SMSA is one of the few remaining urbanized areas of comparable size still lacking a modern, first-class suburban shopping center anchored by conventional department stores and containing a broad array of national and regional specialty store chains.

However, the preceding market demand analyses show clearly that North Haven Mall, as it is now proposed, will far exceed the public need for additional department store and other shoppers goods facilities:

- the mall will result in excessive SMSA department store sales capacity of \$31.5 million from an analysis of overall regional

EXHIBIT 6

PROPOSED NORTH HAVEN MALL  
REDUCED DEVELOPMENT PROGRAM  
(in 1981 Constant Dollars)

|      |  |                            |
|------|--|----------------------------|
| I.   | Proposed Department Store Sales          | \$77.6 Million             |
|      | Less Excess Dept. Store Capacity         | <u>31.5</u> Million a/     |
|      | Revised Dept. Store Volume               | \$46.1 Million             |
| II.  | Proposed Mall Tenant GAFO Sales          | \$49.7 Million             |
|      | Less Excess Mall Tenant GAFO Capacity    | <u>15.4</u> Million b/     |
|      | Revised Mall Tenant GAFO Volume          | \$34.3 Million             |
| III. | <u>Reduced Development Program</u>       |                            |
| A.   | Dept. Stores at \$135 Sales/S.F.         | 341,418 S.F.               |
|      | + 15% Dept. Store Non Shoppers Goods GLA | <u>51,223</u> S.F.         |
|      | Total Supportable Department Store GLA   | <u>392,704</u> S.F.        |
| B.   | Total GAFO Specialty Store GLA           | 204,167 S.F.               |
|      | at \$168 Sales/S.F.                      |                            |
| C.   | Subtotal, Mall Shoppers Goods GLA        | <u>596,871</u> S.F.        |
| D.   | Non Shoppers-Goods Retail                | 71,734 S.F.                |
|      | (at 26% of Overall Non Dept.Store GLA)   |                            |
| E.   | Total North Haven Mall GLA               | <u>668,605</u> Square Feet |
|      | Requirement to Satisfy Public Need       | (or 57.6% of Proposed GLA) |

- a/ from residual dept. store analysis New Haven SMSA  
b/ \$46.9 million total GAFO overcapacity less  
\$31.5 million included in a/



department store supply/demand parameters; and

- using a conventional trade area market share analysis shows that the mall's total GAFO capacity will exceed that required to serve its suburban trade area of \$46.9 million.

In view of these findings, it is our conclusion that in order to meet rather than exceed the public need for additional retail goods and services in the New Haven SMSA and, more specifically, at the North Haven Mall site, the subject mall must be reduced in size to 668,605 square feet total GLA as shown in Exhibit 6 opposite.

In Exhibit 6, we have deducted the mall's excessive sales capacity in both department store and specialty shoppers goods categories which yields 341,481 square feet of supportable department store GAFO space and 204,167 square feet of specialty GAFO tenant area. To derive total supportable GLA, an additional 15% of non-shoppers goods space was attributed to the department stores - for a combined department store GLA of 392,704 square feet - and an additional 71,734 square feet or 26% of mall tenant area was allocated for non-shoppers goods space (e.g. restaurants, branch banks, snack and specialized food shops, drug store, miscellaneous commercial services, and cinema).

In total, the ideal scale of the proposed North Haven Mall precisely tailored to market demand amounts to 668,605 square feet or only 57.6% of the overall size of the complex as proposed by Mall Properties, Inc.

As to the type of regional shopping center most needed at the subject North Haven site, we believe it would be in the best interests of the existing retail community for the new mall to focus upon bringing in good quality chains which currently lack representation in the New Haven region rather than filling space with tenants relocating from existing stores in the market. Also, if the proposed mall is to cater mainly to a middle-income suburban clientele, the merchandising orientation and pricing policies of the majority of mall stores should be in accordance with the needs and financial resources of a fairly broad mass market - meaning that neither high-fashion, designer boutiques nor budget-oriented lower-quality merchandisers should be given more than token representation in the overall tenant mix.

Although a scaled-down North Haven Mall as suggested in Exhibit 6 would still result in transfer from downtown New Haven, Hamden's Miracle Mile, and other existing retail centers, it is our professional opinion that it would not produce the "overkill" which is certain to occur if the mall is allowed to proceed as a four department store, 1.1 million square-foot project.

PART III. PROPOSED NORTH HAVEN MALL  
COMPETITIVE IMPACT ON DOWNTOWN NEW HAVEN

The objective of this Section of the report is to determine the impact of the proposed mall upon the New Haven Central Business District by quantifying the amount of shoppers goods sales which will be transferred from downtown stores to the new mall and by examining the probable effects of mall development on the supply and composition of retail space within the CBD through 1985, the time at which the proposed complex is expected to be fully operational.

Downtown New Haven  
Merchants Survey Results

During the first two weeks of March, 1982, Phillips/Norwalk Company interviewed 41 shoppers goods store managers/owners in downtown New Haven including four operators of retail establishments in the Broadway shopping district which cater mainly to University clientele. Together, the merchants surveyed on a random basis represent 250,261 square feet of GAFO retail space or 41.4% of the total downtown shoppers goods GLA exclusive of Macy's and Malley's Department Stores. Included in the survey were a cross-section of apparel and accessories stores, houseware outlets and miscellaneous shoppers goods stores including tenants in Chapel Square Mall and retail operations with street frontage locations throughout the downtown.

The primary objectives of the downtown merchants survey were as follows:

- to assist in the prediction of aggregate sales transfer from downtown New Haven to the new mall;
- to determine which types of downtown retailers considered themselves most vulnerable to the competitive impact of a super-regional shopping complex; and
- to gauge the probable response of downtown merchants to the opening of the new center.

EXHIBIT 7DOWNTOWN NEW HAVEN  
MERCHANT SURVEY RESULTS

Number of Respondents: 41 Shoppers Goods Stores  
(Including 4 Broadway Stores Catering Mainly to University Clientele)

Time of Survey: March, 1982

Sample Size: 250,261 Square Feet of GAFO Retail Supply  
or 41.4% of Total Downtown Shoppers Goods GLA  
Exclusive of Macy's and Malley's

I. Merchants Planning to Vacate Downtown  
Upon Opening of Proposed North Haven Mall (from Sample)

|              | <u>No.</u> | <u>Size(SF)</u> | <u>Size (SF)</u><br><u>% of Sample</u> | <u>No. of Employees</u> |           |              |
|--------------|------------|-----------------|--|-------------------------|-----------|--------------|
|              |            |                 |  | <u>FT</u>               | <u>PT</u> | <u>Total</u> |
| A. Definite* | 9          | 28,713          | 11.47%                                 | 33                      | 20        | 53           |
| B. Probable* | <u>3</u>   | <u>2,840</u>    | <u>1.13</u>                            | <u>5</u>                | <u>8</u>  | <u>13</u>    |
| Total        | 12         | 31,553          | 12.60%                                 | 38                      | 28        | 66           |

\* Includes Mens and Womens Apparel, Shoes, Jewelry, Gifts, and  
Specialty Housewares

II. Total Retail Closings in Downtown  
Assuming Direct Relationship to Sample

|             | <u>No.</u> | <u>Size(SF)</u> | <u>No. of Employees</u> |           |              |
|-------------|------------|-----------------|-------------------------|-----------|--------------|
|             |            |                 | <u>FT</u>               | <u>PT</u> | <u>Total</u> |
| A. Definite | 22         | 69,355          | 80                      | 48        | 128          |
| B. Probable | <u>7</u>   | <u>6,860</u>    | <u>12</u>               | <u>19</u> | <u>31</u>    |
| Total       | 29         | 76,215**        | 92                      | 67        | 159          |

III. Number of Respondents Receptive to  
Opening Branch Store at Proposed Mall

|   | <u>No.</u> | <u>% of</u><br><u>Sample</u> |
|---|------------|------------------------------|
| A. Definite   | 9          | 22.0%                        |
| B. Possible (but not likely due to rent levels,<br>merchandising orientation, etc.) | 8          | 19.5                         |
| Total   | 17         | 41.5%                        |

\*\* Total Vacancy Factor Including Malley's (220,000 SF)  
of 296,215 SF or 27.6% of All Downtown Shoppers Goods Space.

Finally, we wish to preface our discussion of the survey results by emphasizing that they reflect the opinions and perceptions of downtown merchants whether derived from actual store operating data or other more subjective criteria.

As shown in Exhibit 7, there were 12 respondents indicating that they will definitely or probably vacate downtown when the new mall opens. Some will vacate and relocate to the new mall, others will move to another area outside of downtown, and the rest will simply go out of business. Together, these stores represent 31,553 square feet of retail space or 12.6% of the total square footage sampled. They include menswear and womens apparel stores, shoe stores, jewelry, gifts and specialty housewares establishments which, combined, now employ 38 full-time and 28 part-time workers.

Assuming that the results of the survey can be applied to the overall CBD shoppers goods supply, one can project that 29 downtown GAFO stores will leave when the new mall opens or shortly thereafter or 76,215 square feet of combined retail space in addition to Malley's which is now vacant. The loss of 29 specialty stores employing an estimated 159 full-time and part-time workers means that approximately 20% of the 140 retail outlets currently operating in downtown will close as a result of the new mall. The majority of those expected to vacate consist of: a) medium-priced chain store branches seeking representation in, or close to, the new mall; and b) independent retail merchants unable to retain their existing customers who will be forced out of business. The types of stores most resistant to the impact of the proposed mall are expected to be: a) those which primarily draw upon the University; b) unique operations typically not found in a suburban mall environment; and c) merchants specializing in popular-priced goods which cater to moderate and lower-income households in the immediate, inner city area. In short, the new mall will hit hardest in the broad middle spectrum of the downtown retail supply leaving a polarized retail district mainly consisting of University-oriented shops and budget-oriented stores catering to nearby residents of limited means. In terms of location, it is predicted that Chapel Square Mall will be decimated by the opening of North Haven Mall given the merchandising orientation of the former and the fact that many tenants in Chapel Square have lease terms subject to renewal within four or five years.

A further indicator of the probable diversion effect of North Haven Mall on downtown New Haven is the number of merchants seriously contemplating the opening of a branch store at the new mall. Some 9 operators regarded a new mall branch as definite and 8 others expressed a desire to open a branch facility but were regarded as unlikely to be able to do so because of their type of operation,

## EXHIBIT 8

MERCHANT SURVEY  
DOWNTOWN NEW HAVEN

| <u>Store Type</u>    |     | <u>No. of<br/>Stores<br/>in Mkt.</u> | <u>Primary Trade<br/>of CBD Store</u>                 | <u>Current Dollar Sales<br/>(vs.1981) CBD Store</u> | <u>Est. % of<br/>Downtown Store<br/>Sales from<br/>North Suburbs*</u> | <u>Est.Impact of Proposed<br/>North Haven Mall on<br/>CBD Store Real Volume</u> | <u>Probable Response<br/>to New Mall Opening</u> |
|----------------------|-----|--------------------------------------|---|---|---|---|--|
| Ladies Sportswear    | (C) | 2                                    | Middle-income office workers.                         | -12%  | 20%   | 8% to 10% Loss  | Close downtown, relocate to mall.                |
| Women's Apparel      | (C) | 2                                    | Moderate-income working women and minority clientele. | +10% to 15%   | N.A.  | Slight  | Retain downtown, open branch at mall.            |
| Pants                | (I) | 1                                    | Budget conscious daytime working population.          | +5% to 10%  | N.A.  | Slight  | Retain downtown, consider branch near mall.      |
| Records              | (C) | 1                                    | Teenage students.                                     | +15%  | N.A.  | 10% to 15% Loss   | Retain downtown, consider branch at mall.        |
| Women's Apparel      | (C) | 1                                    | Minorities and CBD workers.                           | +5%   | 20% to 25%  | 8% to 10% Loss  | Retain CBD operation.                            |
| Shoes, Family        | (C) | 2                                    | Budget, inner-city residents.                         | N.A.  | 10%   | Slight  | Retain CBD operation.                            |
| Disct. Women's Wear  | (C) | 4                                    | Middle-income office workers.                         | +10%  | 8% to 10%   | Slight (north suburban branches would lose most).                               | Retain CBD store.                                |
| Women's Apparel      | (C) | 2                                    | Career women and suburban residents.                  | Same  | 30%   | 20% Loss or More  | Close downtown, relocate to mall.                |
| Books                | (C) | 2                                    | CBD workers   | +15% to 18%   | N.A.  | Moderate Loss (10% Maximum)   | Retain downtown, open branch at mall.            |
| Ladies Apparel       | (I) | 1                                    | Better-income women and university students.          | N.A.  | 15% to 20%  | Slight  | Retain CBD, consider branch at mall.             |
| Specialty Housewares | (C) | 1                                    | Middle-income daytime workers and suburbanites.       | New (well below target)                             | 15% to 20%  | 10% Loss  | Close downtown, relocate to mall.                |
| Women's Apparel      | (C) | 2                                    | CBD Working population and suburbanites.              | -5% (gradual decline since 1977)                    | 25%   | 20% to 25% Loss (Based on Past Experiences in Other Similar Markets)            | Close downtown, relocate to mall.                |
| Shoes, Family        | (C) | 3                                    | Budget-conscious local residents                      | +12%  | 15%   | 8% to 10% Loss (Same as Previous Transfer from Branches to Newer CBD Store)     | Retain downtown and suburban branches.           |
| Jewelry              | (I) | 1                                    | City and suburban residents, wide range of income.    | Same  | 25% to 30%  | 20% Loss or More  | Vacate downtown and consider suburban branch.    |
| Women's Apparel      | (I) | 2                                    | Traditional-oriented, upper-end clientele.            | +10% to 15%   | 25%   | 15% to 20% Loss (lost 10% to northern branch)                                   | Close downtown, consider mall branch.            |
| Menswear             | (I) | 1                                    | Better-income buyers of classic, expensive clothing.  | +7% to 8%   | N.A.  | Slight  | Retain CBD operation.                            |
| Shoes, Women's       | (I) | 2                                    | University students.                                  | +10%  | 8% to 10%   | Slight (less than 5%)   | Retain CBD store.                                |
| Shoes, Women's       | (I) | 2                                    | Daytime working population.                           | -5%   | N.A.  | 10% Loss  | Consider closing downtown unit.                  |
| Books                | (I) | 1                                    | University and working pop'l.                         | +5%   | N.A.  | Slight (less than 5%)   | Retain CBD facility.                             |
| Homefurnishings      | (I) | 2                                    | Middle-income clientele.                              | -3%   | N.A.  | Substantial, no estimate given  | Retain CBD store, close suburban branch.         |
| Menswear             | (I) | 1                                    | Expensive, upper-end shopper, wide draw.              | N.A.  | 15%   | Minimal   | Retain downtown facility.                        |
| Jewelry/China        | (I) | 3                                    | Middle-income residents, entire region.               | Same  | 20%   | 10% Loss or More  | Close downtown store.                            |

C - chain operation  
I - independent

## EXHIBIT 8 (Cont.)

MERCHANT SURVEY  
DOWNTOWN NEW HAVEN

| <u>Store Type</u>            |     | <u>No. of<br/>Stores<br/>in Mkt.</u> | <u>Primary Trade<br/>of CBD Store</u>                                      | <u>Current Dollar Sales<br/>(vs.1981) CBD Store</u> | <u>Est. % of<br/>Downtown Store<br/>Sales from<br/>North Suburbs*</u> | <u>Est. Impact of Proposed<br/>North Haven Mall on<br/>CBD Store Real Volume</u> | <u>Probable Response<br/>to New Mall Opening</u>  |
|------------------------------|-----|--------------------------------------|--|---|---|--|---|
| Shoes, Family                | (C) | 8                                    | Office workers   | +10%  | N.A.  | N.A.   | Retain CBD facility,<br>consider branch at mall.  |
| Specialty Women's Wear       | (C) | 1                                    | Mature women from entire<br>metropolitan area                              | -5%   | 20%   | 5% to 8% Loss<br>(Unique appeal<br>mitigates)                                    | Retain CBD store,<br>relocation doubtful.   |
| Sports Shoes                 | (C) | 1                                    | 60% Minority   | +15%  | 15% to 20%  | 10% Loss   | Branch to new mall,<br>reassess CBD store when<br>lease renewal due in 1986.<br>Retain downtown store.  |
| Shoes, Women's               | (C) | 1                                    | Middle-income, career<br>women.  | +12%  | 28%   | 20% Loss Initially,<br>may regain some later.                                    |   |
| Cards/Gifts                  | (C) | 1                                    | Daytime working people   | +10%  | 10%   | 5% Loss  | Retain downtown store.  |
| Women's Ready-to-Wear        | (I) | 1                                    | Mass market, urban and<br>suburban shopper.                                | -5%   | 30%   | 18% to 20% Loss  | Consider vacating CBD<br>store at lease<br>expiration (1987).<br>Retain CBD facility.                   |
| Specialty Women's<br>Apparel | (I) | 1                                    | Young women, all incomes.  | +3% to 5%   | 33%   | 5% to 10% Loss   |   |
| Women's Wear                 | (I) | 1                                    | Upper-income clientele,<br>wide area.                                      | +8%   | 25% to 30%  | 5% to 10% Loss   | Retain downtown store.  |
| Homefurnishings              | (I) | 3                                    | Mid-upper income residents<br>including suburbanites.                      | +5%   | 20%   | 10% Loss   | Retain CBD, branch in<br>or near mall.  |
| General Merchandise          | (I) | 1                                    | University and suburban<br>clientele, mid to upper<br>income.              | N.A.  | 18% to 20%  | N.A.   | Retain downtown facility.   |
| Jr. Women's Sportswear       | (C) | 3                                    | CBD employees and middle-<br>income suburban residents.                    | -20%  | 40%   | 20% Loss   | Close CBD store at<br>lease expiration (1987).  |
| Ladies Apparel               | (C) | 1                                    | Better-income, fashion-<br>oriented career women, wide<br>geographic draw. | +10%  | 20% to 25%  | Slight (less than 5%)<br>(unique merchandise)                                    | Retain downtown facility.   |
| Women's Wear                 | (C) | 5                                    | Middle-income working<br>population.                                       | +5%   | 15%   | 5% to 8%   | Retain CBD store and<br>existing branches.  |
| Men's Wear                   | (I) | 1                                    | Moderate-income young men,<br>few college students.                        | -18%  | 20% to 25%  | 10% to 15%   | Close downtown unit<br>in 1984.   |
| Women's Sportswear           | (C) | 1                                    | Middle-income, working women.  | New<br>(25% below target)                           | 15%   | 20% Loss (with new<br>branch at mall)  | High investment in new<br>CBD store precludes<br>vacating, would definitely<br>open branch in new mall. |
| Shoes, Women's               | (C) | 1                                    | Popular-priced, attracts<br>young women and nearby<br>office workers.      | +15%  | 15%   | 8% to 10% Loss   | Retain downtown store,<br>open branch at new mall.  |
| Jeans, Unisex                | (I) | 1                                    | Students and some young<br>suburbanites.                                   | +12%  | 10%   | 5% Loss  | Retain CBD facility,<br>consider branch near<br>new mall.   |
| Shoes                        | (I) | 1                                    | High-quality, upper-income<br>and University personnel.                    | N.A.  | 18%   | Minimal<br>(unique appeal)   | Retain downtown store.  |
| Unisex Casualwear            | (C) | 2                                    | Youth market, local residents<br>and students.                             | N.A.  | 10%   | Slight (less than 5%)  | Retain downtown and<br>suburban branches.   |

C - chain operation  
I - independent

EXHIBIT 9

CHAPEL SQUARE MALL  
CONTEST ENTRIES BY PLACE OF RESIDENCE\*

|                            |            |               |
|----------------------------|------------|---------------|
| A. City of New Haven       | <u>269</u> | <u>44.8%</u>  |
| B. North Haven             | 28         | 4.7%          |
| Hamden                     | 55         | 9.2           |
| North Branford             | 6          | 1.0           |
| Northford                  | 5          | 0.8           |
| Wallingford                | 25         | 4.2           |
| Cheshire                   | <u>5</u>   | <u>0.8</u>    |
| Subtotal (Northern Sector) | <u>129</u> | <u>21.5%</u>  |
| C. West Haven              | 70         | 11.6%         |
| Orange                     | 13         | 2.2           |
| Woodbridge                 | <u>6</u>   | <u>1.0</u>    |
| Subtotal (Western Sector)  | 89         | 14.8%         |
| D. East Haven              | 48         | 8.0           |
| Branford                   | 18         | 3.0           |
| Guilford                   | 15         | 2.5           |
| Madison                    | <u>4</u>   | <u>0.7</u>    |
| Subtotal (Eastern Sector)  | <u>85</u>  | <u>14.2%</u>  |
| E. Milford                 | 16         | 2.7           |
| Derby                      | 2          | 0.3           |
| Bridgeport                 | 8          | 1.3           |
| Trumbull                   | 1          | 0.2           |
| Weston                     | <u>1</u>   | <u>0.2</u>    |
| Subtotal (Outlying)        | <u>28</u>  | <u>4.7%</u>   |
| Total                      | <u>600</u> | <u>100.0%</u> |

\* Four separate contests held in 1981 (May, June, September & October)



merchandising orientation, or inability to sustain the high rent levels required by a new regional mall.

Exhibit 8 contains the complete listing of downtown store types included in the survey and individual responses to the issues at hand. One can see from this table that there was a fairly wide disparity in terms of current sales performance, percentage of business from the northern suburbs, and estimated impact of the new mall on CBD store real volume. For those retailers whose current performance is subpar, the loss of business caused by the new mall will be enough to force them out of downtown. To that extent, a transfer loss equal to, say, 15% for these tenants would understate the overall loss of business to downtown which would result from store abandonment. Further, it has been our experience that vacancies in a retail district usually trigger more vacancies and losses for those continuing in operation since discretionary shoppers unable to find certain merchandise will gradually turn to other centers where there is a wider assortment and greater depth of goods available. Thus, for downtown New Haven, the adverse impact of North Haven Mall is expected to increase cumulatively after the mall opens because of the combined effect of shrinkage in the downtown retail supply and increasing acceptance of the new mall by former downtown shoppers generated by department store charge account drives, special mall promotions, and on-going advertising.

Downtown New Haven  
GAFO Sales Volume Distribution

Analysis of the residential distribution from four 1981 contests sponsored at Chapel Square Mall reveals that 21.5% of the 600 contest entries were filled out by residents of the northern suburban communities of North Haven, Hamden, North Branford, Northford, Wallingford and Cheshire - that area considered most likely to transfer to the new mall. The West Haven-Orange-Woodbridge area represented 14.8% of the total and the East Haven-Branford-Guilford-Madison area contributed 14.2%. Residents of outlying areas added 4.7% and City residents represented the remaining 44.8% as shown in Exhibit 9. The results of this survey, the findings of a 1977 downtown shopper survey by Halcyon Ltd. and the New Haven Chamber of Commerce, and the examination of selected CBD store charge account data generally show a similar pattern of sales by geographic subsector for downtown as a whole even though there is considerable variation by individual store as indicated in our merchant survey (Exhibit 8).

EXHIBIT 10

ESTIMATED GAFO EXPENDITURES OF DOWNTOWN OFFICE WORKERS (1981)

| <u>Distribution<br/>by Residency</u> <sup>a/</sup> | <u>% of<br/>Total</u> | <u>Number of<br/>Employees</u> | <u>Est. Per Capita Annual</u> <sup>b/</sup><br><u>GAFO Expenditures to CBD</u> | <u>Total GAFO</u><br><u>Expenditures(000) to CBD</u> |
|--|-----------------------|--------------------------------|--|--|
| North Haven  | 3.5%                  | 655                            | \$1,186  | \$ 777   |
| Hamden   | 13.1                  | 2,450                          | 1,186  | 2,906  |
| North Branford                                     | 2.0                   | 374                            | 1,186  | 444  |
| Wallingford  | 1.7                   | 318                            | 1,186  | 377  |
| Bethany  | 2.0                   | 374                            | 1,186  | 444  |
| Cheshire   | <u>2.0</u>            | <u>374</u>                     | <u>1,186</u>   | <u>444</u>   |
| Subtotal   | 24.3%                 | 4,545                          | \$1,186  | \$5,392  |
| Woodbridge   | 2.0%(Est.)            | 374                            | \$1,186  | \$ 444   |
| Orange   | 1.8                   | 337                            | 1,186  | 400  |
| West Haven   | <u>10.0</u>           | <u>1,870</u>                   | <u>1,186</u>   | <u>2,218</u>   |
| (21) Subtotal                                      | 13.8%                 | 2,581                          | \$1,186  | \$3,062  |
| New Haven  | 31.7%                 | 5,928                          | \$1,186  | \$7,031  |
| East Haven   | 8.2%                  | 1,533                          | \$1,186  | \$1,819  |
| Branford   | 5.4                   | 1,010                          | 1,186  | 1,198  |
| Guilford   | 3.2                   | 598                            | 1,186  | 710  |
| Madison  | <u>1.5</u>            | <u>281</u>                     | <u>1,186</u>   | <u>333</u>   |
| Subtotal   | 18.3%                 | 3,422                          | \$1,186  | \$4,060  |
| Other  | 11.9%                 | 2,225                          | \$1,186  | \$2,859  |
| TOTAL  | 100.0%                | 18,701                         | \$1,186  | \$22,404   |

a/ New Haven Downtown Council Survey; Sept., 1980

b/ Frequency of shopping during lunch 4.07/month

Frequency of shopping before or after work 1.23/month

Total frequency of shopping 5.3/month x 12 = 63.6 shopping trips/year x \$21.94

average purchase = \$1,395 per capita less 15% non GAF = \$1,186 per capita

Before allocating total GAFO sales in the New Haven CBD by place of origin, it was necessary to determine the amount and distribution of GAFO sales attributable to daytime office workers. In 1980, a study of the shopping patterns of downtown office workers by the New Haven Downtown Council showed that the typical worker made 63.6 shopping trips to downtown retail establishments during the course of a year and spent an average of \$21.94 per trip of which an estimated 85% went to GAFO stores or \$1,186 per capita. With 18,701 daytime office workers in central New Haven, total GAFO spending from this source amounted to \$22.4 million in 1981.

The next step was to allocate office worker expenditures in direct proportion to their place of residency as shown in Exhibit 10. The northern suburbs contributed 24.3% of total GAFO sales of daytime workers in downtown; the west/northwest suburbs represented 13.8%; east shore communities added 18.3%; residents of the City represented 31.7%; and outlying areas contributed 11.9%.

Finally, after the determination of office worker GAFO expenditures in downtown which are considered less likely to transfer to the new mall than expenditures from other sources, an allocation of residential GAFO spending was made to be used as the primary basis for subsequent calculations of sales transfer. This allocation is shown in Exhibit 11 along with the distribution of office worker expenditures by place of residency.

Total GAFO sales in downtown New Haven were estimated at \$93,554,000 in 1981, or an 4.5% average annual increase over the \$78,451,000 sales reported for the CBD in the 1977 Census of Retail Trade. However, with the recent closing of Malley's, CBD shoppers goods sales are currently estimated at \$80,554,000 or \$13,000,000 less than the annual figure before Malley's vacated (in 1981 dollars).

As shown in Exhibit 11, it is estimated that 72.2% of all GAFO sales are generated from sources other than daytime office workers thus refuting those who might argue that downtown retail stores are not likely to experience significant transfer to the new mall because of their reliance upon a "captive" daytime worker populace.

In terms of total sales distribution, the New Haven CBD draws an estimated 22.2% of total GAFO sales or approximately \$17.9 million from residents and commuters living in the northern suburbs in closer proximity to the North Haven Mall.

EXHIBIT 11

DOWNTOWN NEW HAVEN  
GAFO SALES VOLUME DISTRIBUTION  
(in thousands of 1981 dollars)

|                               | <u>1977</u> | <u>1981</u>     | <u>Aver. Annual</u> |
|-------------------------------|-------------|-----------------|---------------------|
| Downtown New Haven GAFO Sales | \$78,451    | \$93,554        | +4.5%               |
| less Malley's                 |             | <u>-13,000</u>  |                     |
|                               |             | <u>\$80,554</u> |                     |

| <u>Distribution<br/>by Source</u> | <u>Residents</u> <sup>a/</sup> | <u>Daytime<br/>Working Population</u> <sup>b/</sup> | <u>Total</u> | <u>%</u>     |
|-----------------------------------|--------------------------------|---|--------------|--------------|
| North Haven                       | \$ 2,733                       | \$ 777  | \$ 3,510     | 4.36         |
| Hamden                            | 5,350                          | 2,906   | 8,256        | 10.25        |
| North Branford                    | 1,047                          | 444   | 1,491        | 1.85         |
| Wallingford                       | 2,442                          | 377   | 2,819        | 3.50         |
| Bethany                           | 465                            | 444   | 909          | 1.13         |
| Cheshire                          | <u>465</u>                     | <u>444</u>  | <u>909</u>   | <u>1.13</u>  |
| Subtotal                          | \$12,502                       | \$5,392   | \$17,894     | 22.21%       |
| Woodbridge                        | \$ 582                         | \$ 444  | \$ 1,026     | 1.27         |
| Orange                            | 1,279                          | 400   | 1,679        | 2.08         |
| West Haven                        | <u>6,745</u>                   | <u>2,218</u>  | <u>8,963</u> | <u>11.13</u> |
| Subtotal                          | \$ 8,606                       | \$3,062   | \$11,668     | 14.48%       |
| City, New Haven                   | \$26,051                       | \$7,031   | \$33,082     | 41.07%       |
| East Haven                        | \$ 4,650                       | \$1,819   | \$ 6,469     | 8.03         |
| Branford                          | 1,745                          | 1,198   | 2,943        | 3.65         |
| Guilford                          | 1,454                          | 710   | 2,164        | 2.69         |
| Madison                           | <u>407</u>                     | <u>333</u>  | <u>740</u>   | <u>0.92</u>  |
| Subtotal                          | \$ 8,256                       | \$4,060   | \$12,316     | 15.29%       |
| Other                             | \$ 2,735                       | \$2,859   | \$ 5,594     | 6.95%        |
| TOTAL                             | \$58,150                       | \$22,404  | \$80,554     | 100.0%       |

a/ from Chapel Square Mall Shopper Distribution Data; Phillips/Norwalk Co. Interviews with 41 Downtown GAFO Merchants; Selected Downtown Store Charge Account Statistics

b/ from New Haven Downtown Council Employee Shopping Survey, Sept. 1980  
(note: calculated independently to avoid double counting)

In addition, the west/northwest suburbs generate 14.5% of CBD shoppers goods sales and residents of east shore communities contribute 15.3% of total CBD volume. Although residents of the western and eastern suburbs may not be considered as primary transfer candidates, we predict that many will favor the new mall over downtown for a number of reasons (i.e. ease of parking, greater department store representation, lack of perceived security problems, etc.).

Finally, downtown GAFO sales generated by New Haven residents constitute 41.1% of total sales and residents of outlying sections contribute close to 7%.

In summary, Exhibit 11 confirms that the New Haven CBD is still an important destination shopping district for the entire metropolitan region and not just a convenience draw for local residents and daytime office workers. And, as will be seen in the analysis of sales transfer, the development of North Haven Mall at its proposed scale will seriously undermine downtown New Haven's ability to continue as a major center of retail trade within the south-central region.

#### Sales Transfer Forecast

To determine the amount of shoppers goods sales which will be transferred from downtown New Haven to North Haven Mall (in constant 1981 dollars) by 1985, two separate methods have been followed:

##### 1) Prediction Model (Gravity Theory)

This method uses GAFO sales from residents in the various sub-sectors of the region which now go to downtown stores as the base amounts subject to transfer. These base amounts are then allocated on a 50-50 basis between the CBD and North Haven Mall given their comparability in total retail GLA (a somewhat conservative allocation in view of North Haven Mall's superiority in department store representation, ease of parking, etc.). Finally, the allocated base amounts are divided by a distance/friction coefficient developed by Phillips/Norwalk Company which have been proven to be reliable on more than 40 previous assignments nationwide in which department store and/or mall sales transfer forecasts have been made, including transfer projections prepared for May Department Stores, Penney's, and Sears. Application of the distance coefficient determines the amount of sales which will flow to the more distant center from the originating source with the remainder, by definition, allocated to the closer center.

EXHIBIT 12

SALES TRANSFER FORECAST  
DOWNTOWN NEW HAVEN TO PROPOSED MALL\*  
(in '000 of 1981 dollars)

| CBD GAFO Volume Sources | Base Amounts Subject to Transfer |                 |          | Sales Transfer Forecast |       |                 |      |          |        |
|-------------------------|----------------------------------|-----------------|----------|-------------------------|-------|-----------------|------|----------|--------|
|                         | Residents                        | Daytime Workers | Total    | Residents**             | %     | Daytime Workers | %    | Transfer | %      |
| North Haven             | \$ 2,733                         | \$ 777          | \$ 3,510 | \$ 1,604                | 58.7% | \$ 39           | 5%   | \$ 1,643 | 46.8%  |
| Hamden                  | 5,350                            | 2,906           | 8,256    | 3,004                   | 56.2  | 145             | 5    | 3,149    | 38.1   |
| North Branford          | 1,047                            | 444             | 1,491    | 588                     | 56.2  | 22              | 5    | 610      | 40.9   |
| Wallingford             | 2,442                            | 377             | 2,819    | 1,594                   | 65.3  | 19              | 5    | 1,613    | 57.2   |
| Bethany                 | 465                              | 444             | 909      | 304                     | 65.3  | 22              | 5    | 326      | 35.9   |
| Cheshire                | 465                              | 444             | 909      | 327                     | 70.3  | 22              | 5    | 349      | 38.4   |
| Subtotal North Suburban | \$12,502                         | \$ 5,392        | \$17,894 | \$ 7,421                | 59.4% | \$269           | 5%   | \$ 7,690 | 43.0%  |
| Woodbridge              | \$ 582                           | \$ 444          | \$ 1,026 | \$ 172                  | 29.7% | \$ 13           | 3%   | \$ 185   | 18.0%  |
| Orange                  | 1,279                            | 400             | 1,679    | 326                     | 25.5  | 12              | 3    | 338      | 20.1   |
| West Haven              | 6,745                            | 2,218           | 8,963    | 1,328                   | 19.7  | 44              | 2    | 1,372    | 15.3   |
| Subtotal West Suburban  | \$ 8,606                         | \$ 3,062        | \$11,668 | \$ 1,826                | 21.2% | \$ 69           | 2.3% | \$ 1,895 | 16.2%  |
| City of New Haven       | \$26,051                         | \$ 7,031        | \$33,082 | \$ 1,447                | 5.6%  | \$ 70           | 1%   | \$ 1,517 | 4.6%   |
| East Haven              | \$ 4,650                         | \$ 1,819        | \$ 6,469 | \$ 915                  | 19.7% | \$ 36           | 2%   | \$ 951   | 14.7%  |
| Branford                | 1,745                            | 1,198           | 2,943    | 344                     | 19.7  | 24              | 2    | 368      | 12.5   |
| Guilford                | 1,454                            | 710             | 2,164    | 371                     | 25.5  | 21              | 3    | 392      | 18.1   |
| Madison                 | 407                              | 333             | 740      | 104                     | 25.5  | 10              | 3    | 114      | 15.4   |
| Subtotal East Suburban  | \$ 8,256                         | \$ 4,060        | \$12,316 | \$ 1,734                | 21.0% | \$ 91           | 2.2% | \$ 1,825 | 14.8%  |
| Other                   | \$ 2,735                         | \$ 2,859        | \$ 5,594 | \$ 135                  | 4.9%  | \$ 29           | 1%   | \$ 164   | 2.9%   |
| TOTAL                   | \$58,150                         | \$22,404        | \$80,554 | \$12,563                | 21.6% | \$528           | 2.4% | \$13,091 | 16.25% |

\* Four department-store complex as proposed.

\*\* Residential Transfer Calculation:

(T) Amt. Subj. to Transfer x (S) Comparative Center Size ÷ (D) Distance/Travel Resistance Coefficient  
= Amt. Sales Flow to More Distant Retail Center

Example: North Haven

(T) = \$2,733 x (S) North Haven Mall 50% of Total GLA of Mall & CBD = \$1,366 ÷ (D) 1.21 = (R) \$1,129 Retained by CBD

Finally, transfer sales from daytime working population are determined subjectively at a minimal level and added to the residential transfer amounts to produce the overall sales transfer estimate as shown in Exhibit 12.

## 2) Induced Vacancy Forecast

An alternative method is based upon the character of the downtown retail supply and the anticipated vacancies which will result from the new mall as determined empirically through merchant interviews. While less "scientific" than the gravity prediction model, this method gives a better indication of the variable effects of the mall upon the downtown retail supply and, at the same time, provides a "test of reasonableness" of Method No.1.

Total shoppers-goods sales transfer from the New Haven CBD to North Haven Mall using the gravity prediction model (in constant 1981 dollars) will amount to \$13,091,000 or 16.25% of overall GAFO sales in downtown.

As shown in Exhibit 12, residents of the northern suburbs are expected to transfer 59.4% of their current downtown GAFO spending to the new mall, or \$7,421,000. Given the mall's proximity to these customers, the above transfer estimate is regarded as a minimum level which could be exceeded if the anticipated loss of revenues forces widespread store closings throughout the CBD.

In the west/northwest suburbs of Woodbridge, Orange and West Haven, sales transfer from residents is predicted to amount to 21.2% or \$1,826,000. Considering the relative affluence of Woodbridge and Orange along with the ease of access to North Haven Mall via the Wilbur Cross Parkway, transfer from these communities could also exceed our estimates.

Residents of the eastern suburbs are expected to transfer an average of 21% of current downtown spending to the new mall or \$1,734,000. Guilford and Madison residents are considered more likely to divert than residents of East Haven or Branford as shown by the table.

A moderate 5.6% of expenditures by New Haven residents in the CBD are predicted to flow to North Haven Mall; however, most residents of the northern sectors of the City will be able to reach the new complex within 10 minutes via I-91. Here, too, our transfer estimate is regarded as conservative.

EXHIBIT 13

INDUCED VACANCY SCENARIO:  
NORTH HAVEN MALL IMPACT  
DOWNTOWN RETAIL SALES VOLUME  
(in constant 1981 dollars)

| <u>Downtown</u><br><u>GAFO Retail</u> | <u>Total Est.</u><br><u>1981 Sales</u><br><u>(000)</u> | <u>CBD Sales Decline (000)</u> |                           | <u>Sales Volume</u><br><u>w/New Mall</u><br><u>(000)</u> |
|---------------------------------------|--|--------------------------------|---------------------------|--|
|                                       |  | <u>Amount</u>                  | <u>% of Current Sales</u> |  |
| A. Macy's<br>(250,000 SF)             | \$25,000   | \$ ( 3,000)                    | 12%                       | \$22,000   |
| B. Store Closings<br>(76,215 SF) *    | 7,000  | ( 7,000)                       | 100%                      | -  |
| C. Other GAFO Stores<br>(534,500 SF)  | 48,554   | ( 5,826)                       | 12%                       | 42,728   |
| TOTAL                                 | \$80,554**   | \$(15,826)                     | 19.65%                    | \$64,728   |

\* from Phillips/Norwalk Company  
Downtown Merchants Survey (March, 1982)

\*\* exclusive of Malley's Dept. Store (Presently Vacant)



Finally, residents of outlying areas will transfer \$135,000 from downtown and CBD daytime workers an additional \$528,000 or only 2.4% of their current GAFO expenditures in downtown on average.

In summary, with careful consideration of the relative size and attractiveness of the new mall vis-a-vis downtown and the relative proximity of the new complex to a significant percentage of those who now patronize CBD shoppers goods stores, there can be little doubt that downtown New Haven will experience a real loss amounting to no less than 16.25% of its total GAFO sales if North Haven Mall proceeds as proposed.

Viewed from an alternative perspective (i.e. with 76,215 square feet of GAFO retail vacancies induced by the new mall), downtown New Haven could lose as much as 19.65% of its total shoppers goods volume or \$15,826,000 in constant 1981 dollars as shown in Exhibit 13.

First, assume that Macy's will transfer \$3 million or 12% of estimated CBD store sales to its North Haven Mall branch - a diversion estimate which could be substantiated by examination of Macy-CBD internal charge account data. Then deduct an estimated \$7 million from downtown sales as a result of the increased vacancies caused by the new mall (i.e. 76,215 square feet of shoppers goods space as determined in a recent merchants survey). Finally, if the remaining 534,000 square feet of shoppers goods tenants in the CBD experience average transfer comparable to that of Macy's, or 12%, another \$5,826,000 will be lost - for a total loss of sales revenue of \$15,826,000.

### Conclusion

The foregoing analysis demonstrates that downtown New Haven's retail community is highly vulnerable to the development of a four-department store, 1.1 million square foot mall in nearby North Haven.

If the new mall is allowed to proceed, the immediate impact upon downtown New Haven is expected to be severe:

1. it will precipitate the loss of 16.25% to 19.65% of total CBD shoppers goods sales;
2. it will force an estimated 29 stores to close in downtown thus leaving vacant approximately 76,000 square feet of prime CBD retail space; and
3. it will cause other direct and indirect economic hardships for the entire downtown business community in the form of reduced employment, decreased commercial property values, and erosion of tax revenues.

#### PART IV. SUMMARY & RECOMMENDATIONS

The major findings of this report can be summarized as follows:

1. The questionable methodology and inequitable judgements of the Gladstone Associates' report in support of the mall result in significant understatement of the North Haven Mall's adverse impact upon downtown New Haven, Hamden's Magic Mile and, quite possibly, other existing retail centers in the region.
2. Based upon our independent analysis of the public need for retail development at the proposed North Haven site, a new mall of 1.1 million square feet with four anchor stores will far exceed the region's need for additional department stores and the overall retail absorption capacity of its suburban trade area.
3. The development of North Haven Mall as proposed will transfer between 16.25% to 19.65% of downtown New Haven's total shoppers goods volume - a loss which will be accompanied by the abandonment of approximately 76,000 square feet of shoppers goods stores in downtown, reduced retail employment levels, and other economic hardship throughout the entire downtown business community.

#### Recommendations

In our judgement, the need for additional retail development to serve residents and employees of the Greater New Haven region must be balanced against the magnitude and type of dislocations caused by such development throughout the region. For any development of regional impact, such as that proposed in North Haven, it is relatively simple to determine the benefits which, for the most part, are direct benefits. What is more difficult is the measurement of costs which tend to be more indirect and, in many cases, difficult to assign using a strict cause and effect definition.

Hopefully, this report has provided greater insight into the costs associated with North Haven Mall particularly as they concern downtown New Haven. It is recommended that further investigations be made to accurately determine the extent of disbenefits to other retail centers in the region such as Hamden's Magic Mile before a final decision is made regarding the applicant's proposal.

On the basis of our research effort to this point, it would be our recommendation to seek a compromise solution to the mall question - one which would provide for additional retail development on a scale adequate to satisfy public need and, at the same time, allow for the continuity of existing retail centers and stores within the region.

As determined in Part II of this report, there is no real need for a mall larger than 668,605 square feet total GLA to be built in North Haven given the lack of regional population growth anticipated over the next three to eight years. Therefore, rather than permitting unrestrained mall development, we urge public policy makers to act as scientists of equilibrium in this matter - a policy which we believe will result in the greatest long-term benefit for all the people of the New Haven region.

APPENDIX

APPENDIX:

NEW HAVEN SMSA  
DEPARTMENT STORES

| <u>Chain</u>                     | <u>Location</u>              | <u>Est.1981 Sales (000)</u> |                        |
|----------------------------------|------------------------------|-----------------------------|------------------------|
| Macy's                           | 20 Church, New Haven         | \$25,000                    |                        |
| Malley's                         | 2 Church, New Haven (Vacant) | <u>13,000</u>               | \$38,000               |
| Subtotal (2)                     | New Haven CBD                |                             |                        |
| King's DDS                       | 540 Boulevard, New Haven     | <u>\$ 3,400</u>             |                        |
| Subtotal (1)                     | Other New Haven              |                             | \$ 3,400*              |
| Sears                            | 2301 Dixwell, Hamden         | \$16,000                    |                        |
| Marshall's                       | Hamden Plaza                 | 5,500                       |                        |
| Howland's                        | Hamden Mart                  | 3,500                       |                        |
| Caldor DDS                       | 2380 Dixwell, Hamden         | 8,500                       |                        |
| Bradlee DDS                      | Hamden Mart                  | 7,500                       |                        |
| King's DDS                       | Acme Mall, Hamden            | <u>5,000</u>                |                        |
| Subtotal (6)                     | Hamden Magic Mile            |                             | \$46,000               |
| Sears                            | Route 1, Orange              | \$17,000                    |                        |
| Marshall's                       | Route 1, Orange              | 5,500                       |                        |
| Woolco DDS                       | Route 1, Orange              | 10,000                      |                        |
| Bradlee DDS                      | Bull Hill Lane, Orange       | <u>7,000</u>                |                        |
| Subtotal (4)                     | Orange                       |                             | \$39,500               |
| Woolco DDS                       | Washington Ave., No. Haven   | \$11,000                    |                        |
| J.C. Penney                      | Washington Ave., No. Haven   | 4,000                       |                        |
| King's DDS                       | Middletown Ave., No. Haven   | <u>4,500</u>                |                        |
| Subtotal (3)                     | North Haven                  |                             | \$19,500               |
| K-Mart DDS                       | Wallingford                  | \$10,500                    |                        |
| Caldor DDS                       | Wallingford                  | <u>10,500</u>               |                        |
| Subtotal (2)                     | Wallingford                  |                             | \$21,000               |
| Woolco DDS                       | 325 E. Main, Branford        | \$ 9,000                    |                        |
| Caldor DDS                       | 1075 W. Main, Branford       | <u>9,500</u>                |                        |
| Subtotal (2)                     | Branford                     |                             | \$18,500               |
| K-Mart DDS                       | Frontage Rd., East Haven     | \$12,000                    |                        |
| Bradlee DDS                      | Frontage Rd., East Haven     | <u>7,000</u>                |                        |
| Subtotal (2)                     | East Haven                   |                             | \$19,000               |
| Total (22)                       | New Haven SMSA               |                             | \$204,900              |
| DDS (14) - Discount Dept. Stores |                              |                             | (or \$9,314 per store) |

\* Excluding Yale Co-op Sales

Professional  
Qualifications

Phillips/Norwalk Company is an independent real estate consulting firm which provides a variety of development planning and investment advisory services to corporations, financial institutions, governmental agencies, and property owners/developers on a nationwide basis.

Founded in 1974, the firm has assisted more than 150 clients in all phases and uses of real estate including shopping centers, office buildings, hotels and resorts, large-scale residential developments, industrial parks, and multi-purpose urban developments.

In the retail field, Phillips/Norwalk Company provides advice on market strategy, store planning, and site selection for department store chains such as J.C. Penney, May Department Stores, Saks Fifth Avenue, Sears, and Federated Department Stores. For many of the nation's leading shopping center developers including Carter & Associates, Homart, Rouse Company, Edward J. DeBartolo, Shopco, and George Zambas, the firm assists in shopping mall market planning, financial feasibility analysis, impact evaluation, and tenant mix formulation.

For further information regarding Phillips/Norwalk Company clients and qualifications, please see the enclosed brochure and descriptions of assignments completed in recent years.

## **Putman Report**

TECHNICAL MEMORANDUM #3

An Analysis of Retail Sales Shifts from the New Haven Central Business District  
in Response to the Construction of the Proposed North Haven Mall

Prepared by:

Stephen H. Putman, Ph.D.

for:

Development Administrator

City of New Haven

New Haven, Connecticut

March 22, 1982



## INTRODUCTION

The purpose of the analyses described in this report was to assess the impact of the proposed North Haven Mall on retail trade in the New Haven Central Business District. In particular, the developers of the proposed North Haven Mall have contended that the Mall would result in 8% or less shift in retail sales from the New Haven Central Business District. The analyses described here make use of the most sophisticated practical procedures to produce a systematic analysis of the probable shifts.

The use of these procedures takes into account data describing all of the 184 individual zones used by the Regional Planning Agency of South Central Connecticut (RPA) as well as trip frequency distributions prepared by the Connecticut Department of Transportation. Depending upon the particular assumptions made in performing the computations for the analysis, the development of the proposed North Haven Mall will result in a retail trade shift from the New Haven CBD which ranges from 9% to almost 20%. Even the high end of this range results from a rather conservative set of assumptions about shopping and trip making behavior.

In the course of preparing these analyses several interesting subsidiary points are raised dealing with shopping trip functions, market area overlaps, market sizes, and the extent to which regional markets are served by existing and proposed retail facilities. All of these will be discussed in the sections of this report which follow.

There are three principal findings of these analyses which are of importance in considering the advisability of allowing the construction of the proposed North Haven Mall.

- In terms of travel times the location of the New Haven CBD is over three times more efficient than the location of the proposed North Haven Mall.

- ° Contrary to the assertions of the developers, the market area for the proposed North Haven Mall almost completely overlaps the market area of the New Haven CBD.
- ° The likely diversion of sales from the New Haven CBD which will be caused by the proposed North Haven Mall ranges from a minimum of 9% to a maximum of almost 20%. The most probable value is on the order of 13% to 15%.

The remainder of this report is organized into three main sections. The first of these deals with the measure of market areas and the inherent geographic aspects of the region. The second of these sections describes the trip functions available and their parameter estimation. The last of these sections describes the retail market share analyses.

#### GEOGRAPHIC MARKET AREAS

In determining market area the fundamental measure is of transportation time and/or cost. The data used throughout these analyses were supplied by the RPA. The data cover the entire New Haven region, described as subdivided into 184 zones. One of the data items supplied was a zone-to-zone travel time matrix for the region. This matrix contains 1976 highway travel times from each zone to every other zone.

The first set of calculations produced the isochrones for selected zones. For each such zone a tabulation was made of which zones in the region were within 0-5 minutes travel time, which were within 5-10 minutes travel time, 15-20 minutes, etc. Zone 122 was taken to be the zone in which the North Haven Mall would be located. Zones 42, 43, 52, 56, and 62 were taken as the New Haven CBD zones. Tables of the isochrones for each of these six zones are attached to this report. What is most significant is the degree of overlap of the isochrones for the CBD zones and the North Haven Mall (NHM) zones. For example the cumulative percent of all zones in the time rings are shown here for selected zones.

| <u>Time<br/>Ring</u> | <u>Zone 122</u> | <u>Zone 42</u> | <u>Zone 52</u> | <u>Zone 62</u> |
|----------------------|-----------------|----------------|----------------|----------------|
| 0-5                  | 4.89%           | 16.85          | 18.48          | 19.02          |
| 5-10                 | 22.28           | 39.67          | 39.13          | 42.93          |
| 10-15                | 57.07           | 64.13          | 64.13          | 63.59          |
| 15-20                | 82.61           | 78.26          | 78.80          | 81.52          |
| 20-25                | 94.02           | 94.02          | 94.56          | 96.20          |
| 25-30                | 98.37           | 99.46          | 99.46          | 99.46          |
| 30-35                | 99.46           | 100.00         | 100.00         | 100.00         |
| 35-40                | 99.46           | 100.00         | 100.00         | 100.00         |

The fact that the NHM (Zone 122) has more than 98% of the region's zones within thirty minutes driving time makes it very difficult to argue that it would serve a market area different from the one served by the CBD. To see exactly which zones are in which isochrones (time rings) for each of these origin zones, the tables attached to this report must be consulted.

#### TRIP FUNCTION DATA AND ESTIMATES

Three sets of trip frequency data tabulated by Connecticut D.O.T. were supplied by the RPA. For 1964 there were Shopping Goods trips and Convenience Goods trips. For 1976 there were Shopping trips. All three of these trip frequency functions took the commonly encountered skewed peaked distribution as shown in the following three plots of the data.

It is common practice in traditional retail market analysis to use an inverse square function of time or distance, yet this function doesn't fit most known shopping trip data sets. Two functional forms which do fit the trip data are the Tanner function and the Inverse Quadratic function. The Tanner function is:

$$\text{trip frequency} = c_i^{\alpha} e^{-\beta c_i}$$

The Inverse Quadratic function is:

$$\text{trip frequency} = [\alpha c_i^2 + \beta c_i + \delta]^{-1}$$

A non-linear least squares procedure was used to fit these functions to the trip frequency data. The 1976 trip function data were considered to be the best to

SCATTER PLOTS AND WEIGHTED TRIP LENGTHS

03/12/82

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FILE NEWHAVEN (CREATION DATE = 03/12/82) NEW HAVEN TRIP LENGTHS 1976 PERSON TRIPS

SCATTERGRAM OF (DOWN) TRIP (ACROSS) TIME TRAVEL TIME IN MINUTES  
 3.00000 9.00000 15.00000 21.00000 27.00000 33.00000 39.00000 45.00000 51.00000 57.00000

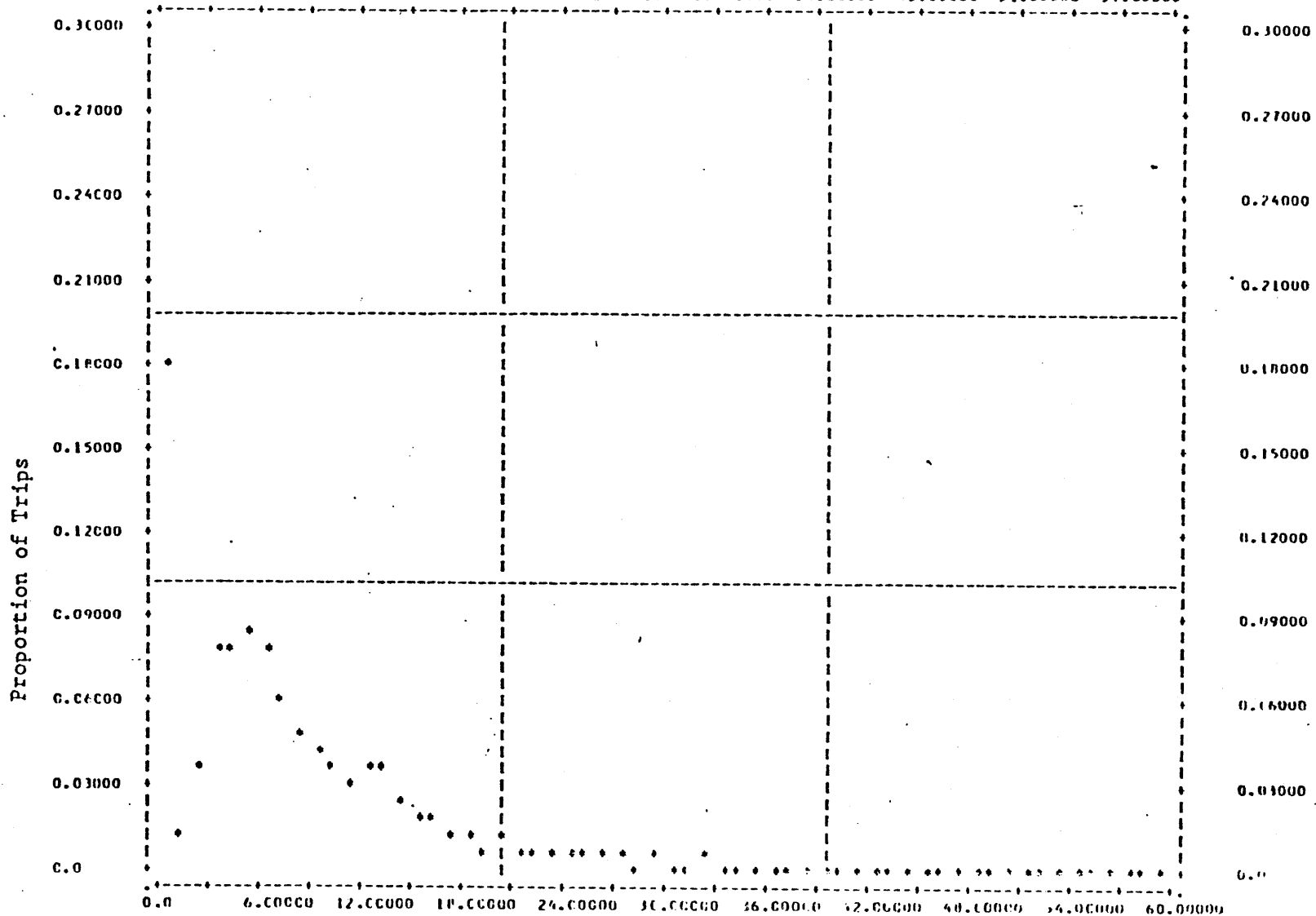


Figure 1: Plot of 1976 Shopping Trip Data Supplied by Connecticut D.O.T.

# SCATTER PLOTS AND WEIGHTED TRIP LENGTHS

03/12/82

PAGE 1

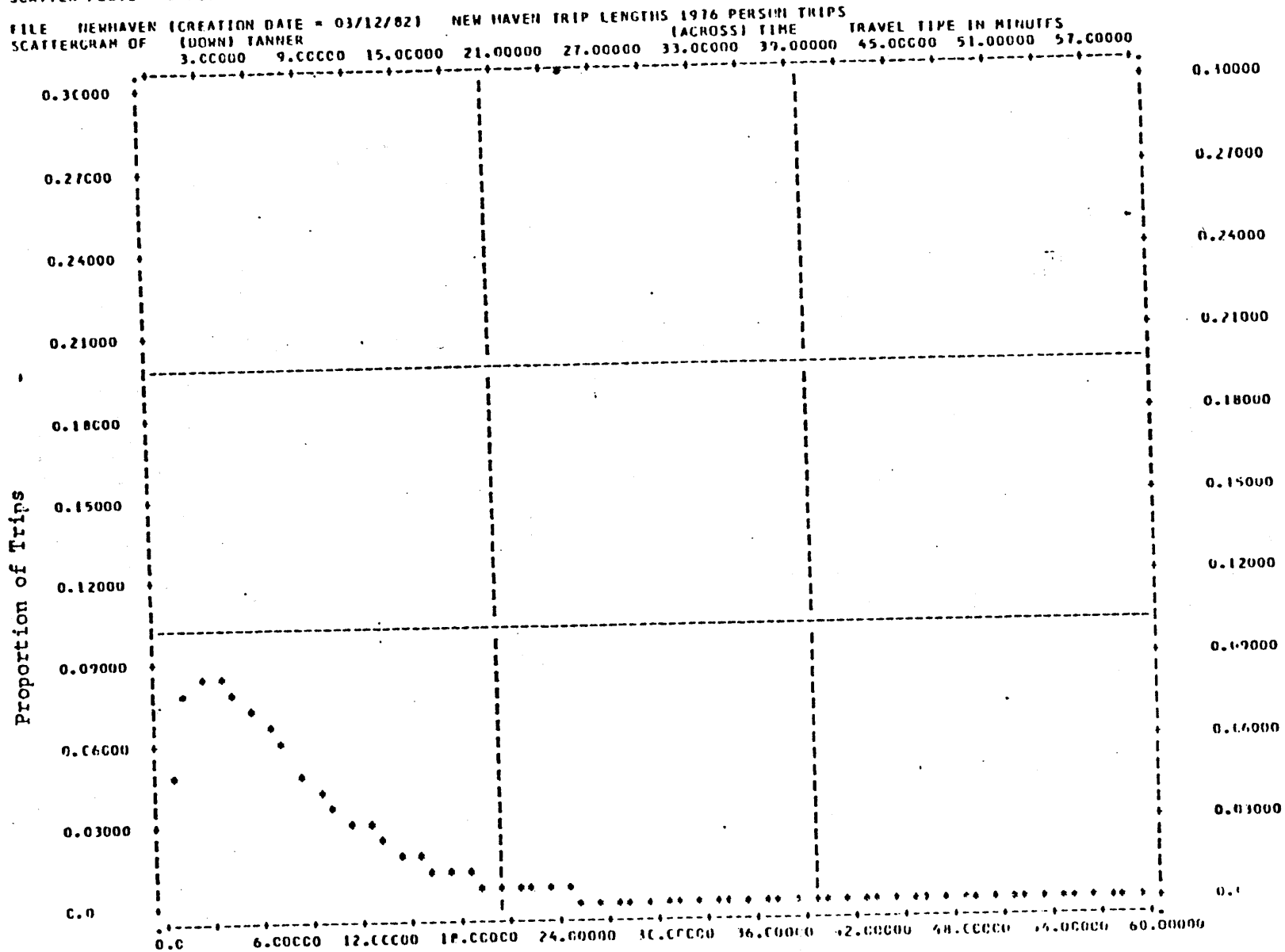


Figure 2: Shopping Trip Distribution Predicted by Tanner Function

SCATTER PLOTS AND WEIGHTED TRIP LENGTHS

03/12/82

PAGE 2

FILE NEWHAVEN (CREATION DATE = 03/12/82) NEW HAVEN TRIP LENGTHS 1976 PERSON TRIPS  
 SCATTERGRAM OF (DOWN) QUAD (ACROSS) TIME TRAVEL TIME IN MINUTES  
 3.00000 9.00000 15.00000 21.00000 27.00000 33.00000 39.00000 45.00000 51.00000 57.00000

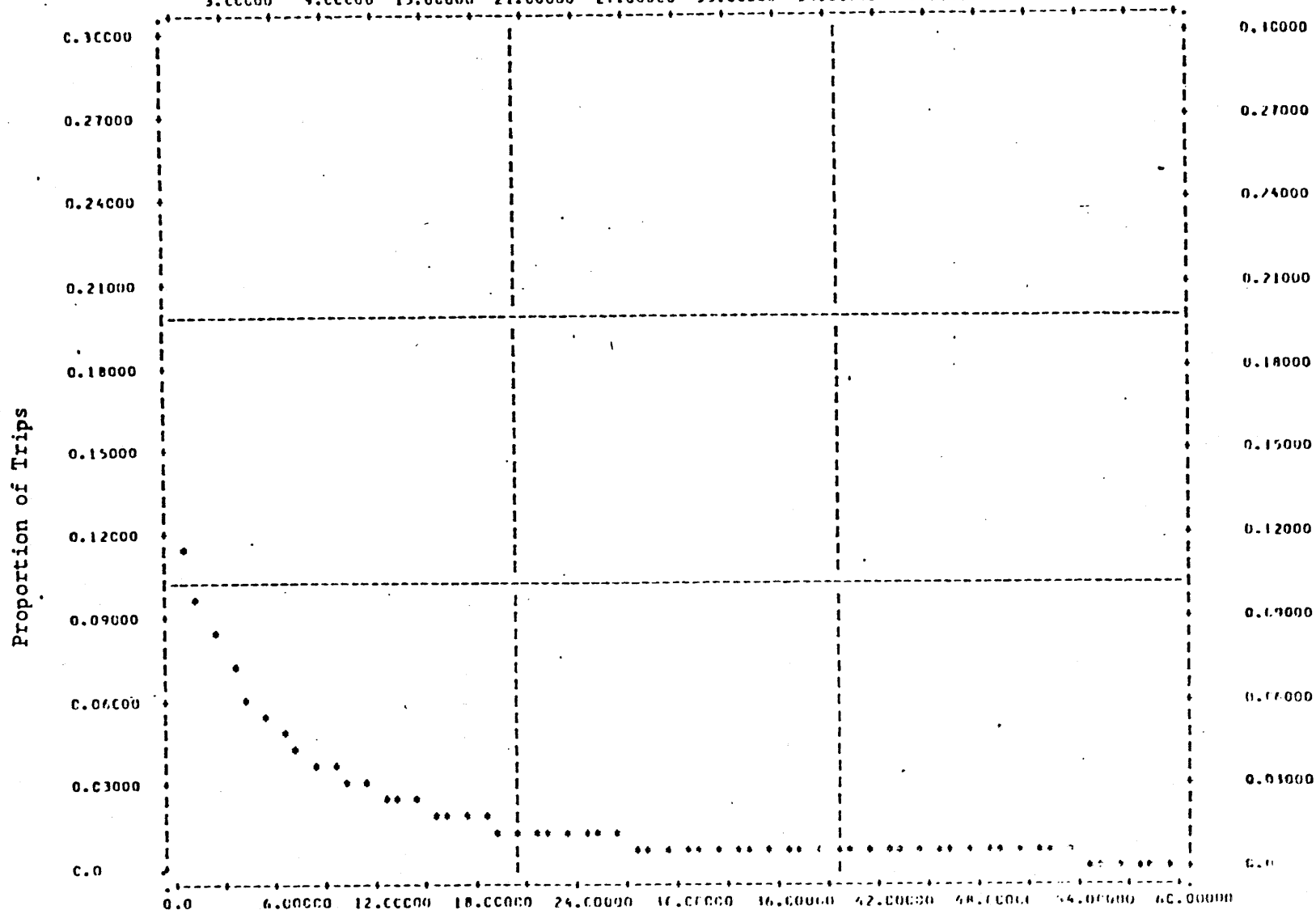


Figure 3: Shopping Trip Distribution Predicted by Inverse Quadratic Function

use in this analysis, as the 1964 data are now eighteen years out of date and not properly representative of current or future shopping trip behavior. In fitting the trip functions trips under one minute were not considered, the statistical results were quite good for both functional forms. The results were:

Tanner Function:

$$T_i = c_i^{0.708} e^{-9.99c_i} \quad (R^2 = 0.89)$$

Inverse Quadratic Function:

$$T_i = [2310.0c_i^2 - 535.0c_i + 41.2]^{-1} \quad (R^2 = 0.93)$$

where

$T_i$  = trip frequency (proportions)

$c_i$  = travel time in hours

Both these functions are close approximations to the 1976 trip frequency distributions. Both functions yield approximately the same results when used in the market analyses described in the next section of this report. Both functions probably underestimate the trip functions for a facility such as the proposed NEM. Such major regional malls often show average trip lengths considerably in excess of the 8.9 minutes shown in the 1976 data.

#### MARKET SHARE ANALYSIS

The market share analysis portion of this work proceeded in three main stages, each being a more complete description of retail market processes. There are numerous ways of calculating retail market shares. All of them follow the same general notions, but there are considerable differences as to their completeness and level of sophistication.

The simplest form of calculation assumes a uniform spread of market and pays no attention to differential attractiveness. This may be said to be market share

due solely to the geographic location of potential retail facilities, and the transportation system connecting them. This procedure is a simple calculation of the probability that sales will take place in a particular zone, solely as a function of shopping trip frequency and the location of the zone. The equation is:

$$\begin{aligned}\text{Share of sales in zone } j &= \sum_i p_{ij} \\ &= \sum_i \left[ \frac{f(c_{ij})}{\sum_k f(c_{jk})} \right]\end{aligned}$$

where

$p_{ij}$  = the probability of a shopping trip of length (or time)  $c_{ij}$

$c_{ij}$  = the time to travel from zone  $i$  to zone  $j$

$f(c_{ij})$  = an expression for the shopping trip function such as the Tanner function or the Inverse Quadratic function.

Using this formulation the estimated shares are

$$\text{NHM} = 0.69\%$$

$$\text{NHCBD} = 4.14\%$$

This formulation is used simply as a starting point in the calculation. A more realistic formulation would have some measure of the market potential (in the form of population or income). Thus the modified equation form would be

$$\begin{aligned}\text{Share in zone } j &= \sum_i P_i p_{ij} \\ &= \sum_i P_i \left[ \frac{f(c_{ij})}{\sum_k f(c_{jk})} \right]\end{aligned}$$

where

$P_i$  = population or income of residents of zone  $i$

Using this formulation with income of residents and, as above, the Tanner function fit to the 1976 trip distribution, the estimated shares were

$$\text{NHM} = 0.70\%$$

$$\text{NHCBD} = 4.03\%$$



The most interesting results come from the inclusion of some measure of attractiveness in the retail share calculations. This is accomplished by modifying the equation used above, as follows:

$$\text{Share in zone } j = \frac{\sum_i P_i \left[ \frac{A_j f(c_{ij})}{\sum_k A_k f(c_{kj})} \right]}{\sum_i P_i}$$

where

$A_k$  = a measure of the attractiveness of zone k for retail sales

In these analyses several alternative measures of attractiveness were examined. In many traditional retail market studies the attractiveness measure used is, simply, retail employment. In other studies attractiveness is a nonlinear function of retail employment, say, retail employment squared. Another measure, sometimes used for shopping center sales, is retail floor area. Because there is no generally agreed upon measure of attractiveness in shopping sales forecasting, several of these measures were examined, each with different trip functions as well.

These functions offer the first formulation in this series which are amenable to tests of CBD sales share reductions due to the construction of NHM. In all of the results given below, personal income of the population is taken as the measure of market potential  $P_i$ , and the 1976 shopping trip function as approximated by the Tanner function given above is taken as the  $f(c_{ij})$ .

The base run, or the "least shift" run, uses the square of retail employment as the attractiveness measure  $A_j$ . The employment in the NHM is taken to be 1500 persons as per the developers report. In this run the New Haven CBD suffers a 9.64% decline in share of the region's retail sales.

The next test run was made using retail employment and shopping center floor area (weighted equally) as the joint measures of attractiveness. In particular, both variables were normalized so that each summed to one over the whole region. Then the normalized variables were added together to yield the attractive-

ness measure  $A_j$ . The area of the NHM was taken to be 1.12 million square feet.<sup>10</sup> In this case the New Haven CBD suffers a 9.46% decline in share of the region's total retail sales.

These two results represent the minimum shift in retail shares and in fact are based on extremely conservative attractiveness formulations as well as a trip function which appreciably underestimates the average lengths of the trips likely to be taken by customers of the proposed NHM.

If the attractiveness function were taken to be the sum of the square of retail employment, and the shopping center floor area, different results would be obtained. Both retail employment squared and shopping center floor area were again normalized and the normalized variables added so that each contributed equally to the measure of attractiveness. In this case the NHM causes an 11.71% decline in the New Haven CBD's share of total regional retail sales.

If instead of weighting the square of retail employment equally with shopping center floor area, the employment takes 40% of the weight and shopping center floor area 60% of the weight, then the diversion of sales from the New Haven CBD becomes 12.30%. If the weighting is changed to 20% for the square of retail employment and 80% for shopping center floor area, then the construction of the NHM causes a 13.90% decline in the share of the region's retail sales which take place in the New Haven CBD. A further shift in the weighting would yield New Haven CBD sales declines approaching 20%.

It is, of course, not possible to know (without a much more systematic and comprehensive sample than the ludicrously inadequate one done on behalf of the developers) what the exact weighting in the attractiveness measure should be. The 40%-60% split cited above is the best, conservative, estimate. But even this estimate gives a 12.30% decline in the CBD. If the 1976 trip functions were altered to reflect the longer trip lengths likely for the proposed NHM, the New Haven CBD

sales shift would easily exceed 15% overall. Based on the computer runs described here along with a very substantial number of additional simulations, the most likely range of the decline in the New Haven CBD share of retail sales is 13% to 15%. A decline of this magnitude would be devastating to the continued viability of the CBD and the commercial life of the city in general.

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| 74 | 96  | 117 | 158 | 0   | 0 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | C | 0 |
| 78 | 98  | 119 | 0   | 0   | 0 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 79 | 99  | 120 | 0   | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | C | 0 |
| 80 | 121 | 122 | 0   | 0   | 0 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | C | C | 0 |
| 0  | 124 | 123 | 0   | 0   | 0 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
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| 0  | 135 | 127 | 0   | 0   | 0 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | C | 0 |
| 0  | 136 | 128 | 0   | 0   | 0 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | C | C | 0 |
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INCOME OF RESIDENTS IN 5. MINUTE RING IS 350,169,120.  
INCOME OF RESIDENTS IN 10. MINUTE RING IS 457,630,208.  
INCOME OF RESIDENTS IN 15. MINUTE RING IS 595,282,688.  
INCOME OF RESIDENTS IN 20. MINUTE RING IS 261,235,344.  
INCOME OF RESIDENTS IN 25. MINUTE RING IS 244,969,360.  
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INCOME OF RESIDENTS IN 35. MINUTE RING IS 69,982,74.  
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INCOME OF RESIDENTS IN 150. MINUTE RING IS 0.

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INCOME OF RESIDENTS IN 5. MINUTE RING IS 558357760.  
INCOME OF RESIDENTS IN 10. MINUTE RING IS 463939584.  
INCOME OF RESIDENTS IN 15. MINUTE RING IS 316438016.  
INCOME OF RESIDENTS IN 20. MINUTE RING IS 234047360.  
INCOME OF RESIDENTS IN 25. MINUTE RING IS 55844560.  
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INCOME OF RESIDENTS IN 145. MINUTE RING IS 0.  
INCOME OF RESIDENTS IN 150. MINUTE RING IS 0.

## **Savatsky Report**

# SOCIAL ASSESSMENT SERVICES

Social/Economics Research & Consulting

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86 Hosmer Street  
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(617) 562-7893

September 2, 1982

Mr. Robert Adler  
New England Division  
Corps of Engineers  
424 Trapelo Road  
Waltham, MA 02254

Dear Mr. Adler:

As agreed via contract order #DAC33-82-M-0850 ordered on July 28, 1982 this constitutes the letter report from Social Assessment Services to the New England Division, US Army Corps of Engineers. The subject matter of this report relates to follow-up social impact assessment work for the North Haven Mall Environmental Impact Statement.

In the following pages we shall consider the possibility that 20% of the comparable central city shops in New Haven would close due to sales diversion resulting from the construction of the North Haven Mall. Due to a present and near term depressed economy and employment picture in New Haven, as in many similar cities, the low income sales employees would have few chances for employment if there were such closings. As requested by the Corps we are considering who these displaced sales workers would be, the characteristics of this population, and how such impact might affect their families and community especially due to exacerbating effects of uncertain transportation and increased cost of living. We have taken the stand, with local Leagues of Women Voters, legal advocacy groups, and two-political leaders, that central city minority population will be adversely affected. Our field analysis program is designed to better comprehend these phenomena.

## Format

This letter report will be organized into three sections, (A) methodology section which will include information sources, (B) general findings, and (C) summary. All data and respondent names will be retained in the Social Assessment Services files. The data are available for your scrutiny or for further detail.

### A. Methodology

In order to best understand the social climate of New haven and potential employment related changes due to the North Haven Mall development within a short but intensive time frame we chose a triangulated methodological approach. A secondary data analysis was first conducted. It consisted of a content analysis of project related literature produced by all involved parties and their consultants, community responses, newsclippings from local and regional newspapers as well as minority publications, city and regional development



reports, available census publications and a broad base of literature on cities, urban development and the effects of shopping malls.

As a compliment to the secondary analysis a double pronged field study was conducted. This included both observational analyses and interviewing. I was assisted in this process by Professor Raymond L. Hall of Dartmouth College. Prof. Hall is an urban sociologist, chairman of Urban Studies at Dartmouth, and a respected authority on minority cultures. Thus the field observations and conclusions are based upon my own expertise as an environmental sociologist and community research methodologist and that of Dr. Hall as an urbanologist specializing in ethnic and racial minority groups.

During three days, at various time intervals we visited the different areas of the central business district and adjacent neighborhoods in the zone of transition. Since there were no conclusive data on who presently constitutes the sales labor force we found it necessary to observe and estimate the characteristics of this group. Sampling businesses at random, we further queried persons informally about "who they are", and from where they commute.

This field observation technique was accompanied by an open ended interviewing process. Twenty-seven persons were selected due to their representativeness as diverse minority workers, business owners in the CBD and other urban neighborhoods, city employees concerned with the mall development, community leaders or officials, and leaders in the regional business organizations. Interviews averaged  $\frac{1}{2}$  hour in duration and were either in person or via telephone when necessary. Respondents were asked about their community, the sales force, persons they work with, their employees, and their perceptions of potential change due to North Haven Mall. Thus our approach constitutes a triangulation of secondary data analysis, direct field observation and representative open ended interviewing. Observations and thus findings are solely biased by the urban sociological perspective and expertise held by the observers.

#### B. Findings

Based on 1977 retail census data and recent employment trends we expect that the present sales force in New Haven is between 7,800 and 8,000 persons. The majority of these persons are employed in neighborhoods and shopping plazas outside the CBD. Their positions are dependent upon local sales. There are approximately 1,200 in the CBD sales force according to the census. Our field study determined that less than 10% of these persons are minority group members.

The Phillips/Norwalk Co. study of March 1982 has suggested that in the CBD there are currently 140 retail outlets. Though we have witnessed a range of guesses due to the consultants' use of various projective methods a 20% estimate of businesses would suggest 28 (Phillips/Norwalk estimate 29) retail shops including approximately 160 workers might be affected by store closings or contraction. Muller and others have documented similar CBD contraction resulting from suburban malls.

Those stores which would close, according to several knowledgeable business respondents would be stores serving a middle income clientele. It may be assumed that specialty shops serving a Yale based consumer group will be unaffected, similarly those serving a low income local population would suffer little affect as would adjacent neighborhood establishments.

Assuming however that there will be a loss of 160 sales positions in New Haven who will those persons be? The 1970 census shows us that approximately 60% of the CBD sales workers were suburban residents. Our respondents estimated that presently over half of their co-workers were from the suburbs, substantiating the 1970 data not yet available for 1980. According to the 1970 census 88% of these suburban residents drove to work and thus we might assume that a similar number would drive to North Haven if necessary. Though there has been little evidence that poor urban families commute to suburban employment 60% of the sales workers living in New Haven also drove to work in 1970. So we should consider that only about one fourth of the workers will be affected by transportation disadvantages. According to the 160 Phillips/Norwalk estimate that means potentially 40 New Haven or close by residents would be without sales employment opportunity.

Respondents in local businesses have suggested that turnover in the sales positions is generally seasonal due to a large number of student workers. They also indicated that the majority of their co-workers were middle income housewives. Our field observations of employees in CBD shops suggest that less than 10% are minority workers including black and hispanic persons. Since it is likely that other than middle income housewives, minority persons and students constitute the majority of the 40 persons who do not drive to work we might estimate that a worse case would include 10 to 20 displaced central city low income minority workers. Presently there is some small expansion in minority owned shops within the transitional neighborhoods. It is possible that such an expansion could absorb this impact.

Any discussion of family and community impact due to loss of direct sales employment in a transient student population, or to 15 of the approximately 48,000 minority residents would be methodologically impossible. Direct employment impact would be virtually unnoticeable in both the private and public welfare systems of any city of 126,000 persons.

Of the minority community residents interviewed who were knowledgeable about the project, none were overly alarmed about extensive impact from the North Haven Mall. The main possible effect that should be considered, however, is loss of city revenue and the potential effect of such a loss on city programs. Were 20 businesses to close, the revenues would reduce discretionary funds by over one million dollars. This coupled with contracting federal and state funding could affect existing programs for, and services to, central city residents.

This leads us to the question of impact on the potential CBD revitalization. City officials are concerned that businesses will not move to New Haven if they perceive decreasing sales due to the North Haven Mall. Throughout the United States and especially in the Northeast we have seen a decrease in manufacturing in cities and an increase in the service sector. Simultaneously

there has been a trend to cluster service sector industry in both suburban industrial parks and in urban areas. It is a trade-off between turnpike transportation, parking, expansion potential on the one hand and service availability on the other. We are presently seeing a growth in the service sector in New Haven. A Halcyon report to New Haven has further projected this growth in the city. The local Office of Housing and Urban Development has shown evidence of housing development and rehabilitation in the past two years despite the national economy as has the New Haven Development Commission. This is in spite of the U.S. HUD report issued as the 1980 President's National Urban Policy Report which labeled New Haven a "High Need, Decline City" with high unemployment rates, low nominal per capita income growth, and with a large impoverished minority population including many female headed families not counted in the work force estimates. Such redevelopment activity may also be evidenced in similar high need cities as Elmira, Rochester, Schenectady, and Utica, New York, where successful revitalization has been taking place in spite of suburban shopping malls and adverse urban conditions. (see writings of Mary P. Ciccariello, Ph.D, mayor, Elmira, New York; Shirley Bradway Laska and Daphne Spaine, 1980).

The economic stability of Yale University and its ongoing student population is pervasive in New Haven. This situation itself as in Boston and Cambridge provides business stimulus and prohibits a total degradation. As may be observed in other high status university communities there is some movement toward a return to communities offering fine cultural facilities despite the high crime rates of many central cities. As in other communities we see out-mobility declining in New Haven. This alone is likely to insure against central city degradation. (Office of the Mayor of New Haven, 1980 Budget Message)

Perhaps one concern, gentrification, which has not been discussed by New Haven residents, but is well documented, should be considered. As early as 1963 James Q. Wilson and Edward C. Banfield were documenting the urban effects of stratification, politics and migration. Just as the urban renewal programs of the sixties and early seventies have become known as "negro removal projects" so the trend involving the rejuvenation or development of upper income housing in the zone of transition is likely to have a deleterious effect on the economic well being of poor minorities in central New Haven. As seen in the 1980 Presidents report such rejuvenation projects have increased the cost of housing and decreased the supply to unassisted poor persons. Urban family incomes do not rise with the consumer price index which is consistent with suburban family income increase. This further affects the poor placing a larger burden on the city programs. One result of gentrification is the eventual displacement of the poor minority populations. Thus the question is not only whether revitalization could be impeded by North Haven, affecting present city population groups. It is also whether the city revitalization with corresponding middle and upper income population in-migration does not in fact have a more deleterious effect on poor minority populations. The literature has certainly documented the later effect rather than the former.

We have refrained from detailing the community and life style characteristics of New Haven's urban poor since our evidence shows little direct effect. Of course indirect impacts from the development might mean changes

in the tax base, and thus city programs, eventually affecting the lives of urban residents. Secondary and tertiary employment due to services to the mall or lack of service revenues from closed downtown businesses could also have some ripple effect on the community. All of this is dependent upon other economic conditions and developments. Making such projections of change in life style or community structure would have little basis in fact or scientific method due to the small numbers of persons involved and a host of necessary socio-economic and political decisions which have not yet been considered by New Haven.

#### Summary

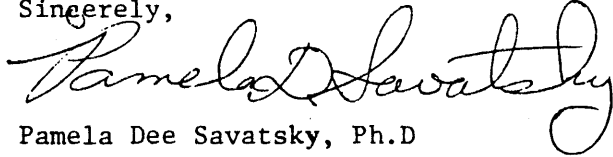
- Of the 160 possible lost sales positions in New Haven, 40 persons are likely to have difficulty commuting to North Haven Mall. Most are students and seasonal workers.
- Approximately 15 of these persons are probably city of New Haven residents, several of whom are low income minority (black and hispanic) workers.
- Minorities constitute 38% of the population of New Haven yet less than 10% of the sales force in the CBD.
- Since the number of displaced workers from the central city is potentially low it is almost impossible to methodologically and scientifically project community change due to lack of employment.
- There has been a slight increase in minority owned neighborhood businesses in the traditional zone which might offer positions to this affected sales force.
- Minority community members are not overly concerned about significant impact on their communities due to the North Haven Mall.
- If the revitalization of downtown New Haven is to be considered as being potentially impacted thus affecting poor urban residents in New Haven, we must also consider the possible dilaterious effects of a New Haven revitalization on the same population as documented by gentrification experiences of other northeastern communities.
- We believe the North Haven Mall will have little negative employment effect on New Haven residents and similarly cause few direct impacts on minority communities.
- Decreasing tax revenues due to closings could necessitate reduction of city programs and services which would affect urban residents. New Haven has not yet indicated priorities for such reductions, thus, a more specific analysis would be overly tentative.

Please request necessary detailed information or back up data on any of the points in this report. The attached references include only those reports and

Mr. Robert Adler  
Page 6

sources used directly in our analysis. We have been pleased with the cordial and open response of all involved parties.

Sincerely,

A handwritten signature in cursive script, reading "Pamela Dee Savatsky". The signature is written in dark ink and is positioned to the right of the word "Sincerely,".

Pamela Dee Savatsky, Ph.D  
Social Assessment Services

PDS:jw

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